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(71) Applicant: Amazon.Com, Inc.

Seattle, WA 98101 (US)

(72) Inventors:

• Hartman, Perl

Seattle, Washington 98109 (US)

• Bezos, Jeffrey P.

Seattle, Washington 98101 (US)

• Kaphan, Shel

Seattle, Washington 98115 (US)

• Spiegel, Joel

Woodinville, Washington 98115 (US)

(74) Representative:

Grünecker, Kinkeldey,

Stockmair &amp; Schwanhäusser

Anwaltssozietät

Maximilianstrasse 58

80538 München (DE)

## (54) Method and system for placing a purchase order via a communications network

(57) A method and system for placing an order to purchase an item via the Internet. The order is placed by a purchaser at a client system and received by a server system. The server system receives purchaser information including identification of the purchaser, payment information, and shipment information from the client system. The server system then assigns a client identifier to the client system and associates the assigned client identifier with the received purchaser information. The server system sends to the client system the assigned client identifier and an HTML document identifying the item and including an order button. The client system receives and stores the assigned client identifier and receives and displays the HTML document. In response to the selection of the order button, the client system sends to the server system a request to purchase the identified item. The server system receives the request and combines the purchaser information associated with the client identifier of the client system to generate an order to purchase the item in accordance with the billing and shipment information whereby the purchaser effects the ordering of the product by selection of the order button.

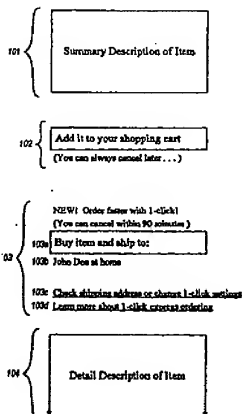


Fig. 1A

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process and waiting for, viewing, and updating the purchaser-specific order information can be much more than the overhead of selecting the item itself. This overhead makes the purchase of a single item cumbersome. Also, with such an ordering model, each time an order is placed sensitive information is transmitted over the Internet. Each time the sensitive information is transmitted over the Internet, it is susceptible to being intercepted and decrypted.

## SUMMARY OF THE INVENTION

**[0007]** An embodiment of the present invention provides a method and system for ordering an item from a client system. The client system is provided with an identifier that identifies a customer. The client system displays information that identifies the item and displays an indication of an action (e.g., a single action such as clicking a mouse button) that a purchaser is to perform to order the identified item. In response to the indicated action being performed, the client system sends to a server system the provided identifier and a request to order the identified item. The server system uses the identifier to identify additional information needed to generate an order for the item and then generates the order.

**[0008]** The server system receives and stores the additional information for customers using various computer systems so that the server system can generate such orders. The server system stores the received additional information in association with an identifier of the customer and provides the identifier to the client system. When requested by the client system, the server system provides information describing the item to the requesting client system. When the server system receives a request from a client system, the server system combines the additional information stored in association with the identifier included in the request to effect the ordering of the item.

## BRIEF DESCRIPTION OF THE DRAWINGS

### [0009]

Figures 1A-1C illustrate single-action ordering in one embodiment of the present invention.

Figure 2 is a block diagram illustrating an embodiment of the present invention.

Figure 3 is a flow diagram of a routine that enables single-action ordering for a customer.

Figure 4 is a flow diagram of a routine to generate a Web page in which single-action ordering is enabled.

Figure 5 is a flow diagram of a routine which processes a single-action order.

Figure 6 is a flow diagram of a routine for generating a single-action order summary Web page.

Figure 7 is a flow diagram of a routine that imple-

ments an expedited order selection algorithm.

Figures 8A-8C illustrate a hierarchical data entry mechanism in one embodiment.

Figures 9A-9B illustrate use of a single-action to give an item as a gift to one or more recipients.

Figure 10 illustrates a grid for creation of a group and the entry of identifying information for recipients associated with the group (i.e., members).

Figure 11 is a flow diagram of the overall flow of the gift delivery system.

Figure 12 is a block diagram illustrating the components of the gift delivery system.

Figure 13 is a state diagram illustrating the various states of a gift order.

Figure 14 is a flow diagram of a routine that controls the receiving of gift orders.

Figure 15 is a block diagram of a routine that controls the attempt at first contact of the recipient.

Figure 16 is a flow diagram of a routine that controls the processing of the initial voice telephone contact.

Figure 17 is a flow diagram of a routine that controls the processing of the initial response.

Figure 18 is flow diagram of a routine that controls the collecting of additional contact information.

Figure 19 is a flow diagram of a routine that controls the verifying of the delivery information.

## DETAILED DESCRIPTION OF THE INVENTION

**[0010]** The present invention provides a method and system for single-action ordering of items in a client/server environment. The single-action ordering system of the present invention reduces the number of purchaser interactions needed to place an order and reduces the amount of sensitive information that is transmitted between a client system and a server system. In one embodiment, the server system assigns a unique client identifier to each client system. The server system also stores purchaser-specific order information for various potential purchasers. The purchaser-specific order information may have been collected from a previous order placed by the purchaser. The server system maps each client identifier to a purchaser that may use that client system to place an order. The server system may map the client identifiers to the purchaser who last placed an order using that client system. When a purchaser wants to place an order, the purchaser uses a client system to send the request for information describing the item to be ordered along with its client identifier. The server system determines whether the client identifier for that client system is mapped to a purchaser. If so mapped, the server system determines whether single-action ordering is enabled for that purchaser at that client system. If enabled, the server system sends the requested information (e.g., via a Web page) to the client computer system along with an indication of the single action to perform to place the order for the item. When single-action ordering is enabled, the

purchaser need only perform a single action (e.g., click a mouse button) to order the item. When the purchaser performs that single action, the client system notifies the server system. The server system then completes the order by adding the purchaser-specific order information for the purchaser that is mapped to that client identifier to the item order information (e.g., product identifier and quantity). Thus, once the description of an item is displayed, the purchaser need only take a single action to place the order to purchase that item. Also, since the client identifier identifies purchaser-specific order information already stored at the server system, there is no need for such sensitive information to be transmitted via the Internet or other communications medium.

[0011] Figures 1A-1C illustrate single-action ordering in one embodiment of the present invention. Figure 1A illustrates the display of a Web page describing an item that may be ordered. This example Web page was sent from the server system to the client system when the purchaser requested to review detailed information about the item. This example Web page contains a summary description section 101, a shopping cart section 102, a single-action ordering section 103, and a detailed description section 104. One skilled in the art would appreciate that these various sections can be omitted or rearranged or adapted in various ways. In general, the purchaser need only be aware of the item or items to be ordered by the single action and of the single action needed to place the order. The summary description and the detailed description sections provide information that identifies and describes the item(s) that may be ordered. The shopping cart section provides the conventional capability to add the described item to a shopping cart. The server system adds the summary description, the detailed description, and the shopping cart sections to each Web page for an item that may be ordered. The server system, however, only adds the single-action ordering section when single-action ordering is enabled for that purchaser at that client system. (One skilled in the art would appreciate that a single Web page on the server system may contain all these sections but the single-action ordering section can be selectively included or excluded before sending the Web page to the client system.) This example single-action ordering section allows the purchaser to specify with a single click of a mouse button to order the described item. Once the purchaser clicks the mouse button, the item is ordered, unless the purchaser then takes some action to modify the order. The single-action ordering section contains a single-action ordering button 103a, purchaser identification subsection 103b, and single-action ordering information subsections 103c and 103d. The purchaser information subsection displays enough information so that the purchaser can verify that the server system correctly recognizes the purchaser. To reduce the chances of sensitive information being intercepted, the server system sends only

enough information so that the purchaser is confident that the server system correctly identified the purchaser but yet not enough information to be useful to an unscrupulous interceptor. The additional information subsections allow the purchaser to obtain various settings or obtain more information related to the single-action ordering. If the purchaser wants to verify the shipping address, the purchaser can select the "check shipping address" label. In response to this selection, the server system may require the purchaser to perform a "login" so that the identity of the purchaser can be verified before the shipping information is viewed or modified. The server system then sends a Web page to the client system for display and possible modification of the shipping address. In this way, the transmitting of the sensitive shipping address can be avoided unless requested by the verified purchaser.

[0012] When the purchaser selects the single-action ordering button, the client system sends a message to the server system requesting that the displayed item be ordered. After the server system processes the message, the server system provides to the client system a new Web page that confirms receipt of the single-action order. Figure 1B illustrates the display of a Web page confirming a single-action order. The confirming Web page contains essentially the same information as the Web page describing the item (i.e., Figure 1A) except that an order confirmation section 105 is displayed at the top of the Web page. The order confirmation section confirms that the order has been placed and provides an opportunity for the purchaser to review and change the single-action order. Alternatively, the confirming Web page can be identical to the Web page describing the item (i.e., Figure 1A), except that the single-action ordering button is replaced with a message confirming the order.

[0013] If a single-action ordering is not currently enabled for the client system but could be enabled, then the server system can generate a Web page like Figure 1A, except that the single-action ordering button 103a is replaced by a single-action ordering enable button. Such a replacement button could contain text instructing the purchaser to click on the button to enable single-action ordering. When the purchaser clicks on that button, the server system would send the Web page of Figure 1A to be displayed. Single-action ordering can be enabled whenever the server system has stored sufficient purchaser-specific order information for that client system to complete a single-action order. If the server system does not have sufficient information, then when the purchaser selects the single-action ordering button, the server system can provide a Web page to collect the additional information that is needed. The server system may require the purchases to "login" so that the identity of the purchaser can be verified before the single-action ordering is enabled.

[0014] To help minimize shipping costs and purchaser confusion, the server system may combine various sin-

gle-action orders into a multiple-item order. For example, if a purchaser orders one item using the single-action ordering and five minutes later orders another item using the single-action ordering, then those orders may be cost effectively combined into a single order for shipping. The server system combines the single-action orders when their expected ship dates are similar. For example, if one item is immediately available and the other item will be available in one day, then the two single-action orders may be cost-effectively combined. However, if the other item will not be available for two weeks, then the two single-item orders would not be combined. Figure 1C illustrates the display of a Web page representing four single-action orders that have been combined into two separate multiple-item orders based on the availability of the items. The order information 106 indicates that item 1 and item 2, which will be available in three or fewer days, have been combined into one order. The order information 107 indicates that items 3 and 4, which will not be available within one week, are combined into a separate order. In one embodiment, the server system may combine single-action orders that are placed within a certain time period (e.g., 90 minutes). Also, the server system may combine or divide orders when the orders are scheduled for shipment based on the then current availability of the items ordered. This delayed modification of the orders is referred to as "expedited order selection" and is described below in detail.

[0015] Figure 2 is a block diagram illustrating an embodiment of the present invention. This embodiment supports the single-action ordering over the Internet using the World Wide Web. The server system 210 includes a server engine 211, a client identifier/customer table 212, various Web pages 213, a customer database 214, an order database 215, and an inventory database 216. The server engine receives HTTP requests to access Web pages identified by URLs and provides the Web pages to the various client systems. Such an HTTP request may indicate that the purchaser has performed the single action to effect single-action ordering. The customer database contains customer information for various purchasers or potential purchasers. The customer information includes purchaser-specific order information such as the name of the customer, billing information, and shipping information. The order database 215 contains an entry for each order that has not yet been shipped to a purchaser. The inventory database 216 contains a description of the various items that may be ordered. The client identifier/customer table 212 contains a mapping from each client identifier, which is a globally unique identifier that uniquely identifies a client system, to the customer last associated with that client system. The client system 220 contains a browser and its assigned client identifier. The client identifier is stored in a file, referred to as a "cookie." In one embodiment, the server system assigns and sends the client identifier to the client sys-

tem once when the client system first interacts with the server system. From then on, the client system includes its client identifier with all messages sent to the server system so that the server system can identify the source of the message. The server and client systems interact by exchanging information via communications link 230, which may include transmission over the Internet.

[0016] One skilled in the art would appreciate that the single-action ordering techniques can be used in various environments other than the Internet. For example, single-action ordering can also be in an electronic mail environment in which an item is described in an electronic mail message along with an indication of the single action that is to be performed to effect the ordering of the item. Also, various communication channels may be used such as local area network, wide area network, or point-to-point dial up connection. Also, a server system may comprise any combination of hardware or software that can generate orders in response to the single action being performed. A client system may comprise any combination of hardware or software that can interact with the server system. These systems may include television-based systems or various other consumer products through which orders may be placed.

[0017] Figure 3 is a flow diagram of a routine that enables single-action ordering for a customer. To enable single-action ordering, a server system needs to have information about the customer that is equivalent to the purchaser-specific order information. The server system can obtain this information in various ways. First, the server system could ask the customer if they would like to have single-action ordering enabled. If so, then the server system could prompt the customer using a Web page for the purchaser-specific order information. Second, the server system could also save the purchaser-specific order information collected when an order is placed conventionally. The server system could, either automatically or with the customer's assent, enable single-action ordering. In step 301, the server system retrieves the client identifier that was sent by the client system. In step 302, the server system updates the client identifier/customer table to indicate that the generated client identifier has been associated with that customer. In step 303, the server system sets a flag indicating that single-action ordering is enabled for that client identifier and that customer combination. That flag may be stored in the client identifier/customer table. In step 304, the server system supplies a confirming Web page to the client system. The next time a purchaser attempts to order an item, the client system will supply its client identifier to the server system. If single-action ordering is enabled for that purchaser, the server system will assume that the purchaser is the customer associated with that client identifier in the client identifier/customer table. Thus, a purchaser may not want to allow the server system to enable single-action ordering if there is a possibility that someone else may use that same client system.

[0018] Figure 4 is a flow diagram of a routine to generate a Web page in which single-action ordering is enabled. When single-action ordering is enabled, the server system generates a Web page describing an item as is conventionally done and then adds a single-action ordering section. In one embodiment, the server system adds partial purchaser-specific order information to the section. This information may include the customer's name, a shipping address moniker selected by the purchaser (e.g., "at home"), and the last five digits of a credit card number or a nickname selected by the purchaser. Such partial information should be the minimum information sufficient to indicate to the purchaser whether or not the server system is using the correct purchaser-specific order information. In step 401, the server system generates a standard shopping cart-type Web page for the item. In step 402, if the single-action ordering flag has been set for the client identifier and customer combination, then the server system continues at step 403, else the server system completes. In step 403, the server system adds the single-action section to the Web page and completes.

[0019] Figure 5 is a flow diagram of a routine which processes a single-action order. When a purchaser performs the single action needed to place an order, the client system notifies the server system. The server system then combines the purchaser-specific order information for the customer associated with the client system with the item order information to complete the order. The single-action order may also be combined with other single-action orders and possibly with other conventionally placed orders to reduce shipping costs. In one embodiment, single-action orders can be combined if they are placed within a certain time period of each other (e.g., 90 minutes). This routine illustrates the combining of the single-action orders into a short-term order (e.g., available to be shipped in less than a week) and a long-term order (e.g., available to be shipped in more than a week). One skilled in the art would appreciate that the single-action orders can be combined in various ways based on other factors, such as size of shipment and intermediate-term availability. In step 501, if the item is expected to be shipped in the short term, then the server system continues at step 502, else the server system continues at step 505. In step 502, if a short-term order has already been opened for the purchaser, then the server system continues at step 504, else the server system continues at step 503. In step 503, the server system creates a short-term order for the purchaser. In step 504, the server system adds the item to the short-term order and continues at step 508. In step 505, if a long-term order has already been opened for the purchaser, then the server system continues at step 507, else the server system continues at step 506. In step 506, the server system creates a long-term order for the purchaser. In step 507, the server system adds the item to the long-term order. In step 508, the server system generates and sends the confir-

mation and completes.

[0020] Figure 6 is a flow diagram of a routine for generating a single-action order summary Web page. This Web page (e.g., Figure 1C) gives the user the opportunity to view and modify the short-term and long-term single-action orders. In step 601, the server system adds the standard single-action order information to the Web page. In step 602, if a short-term order is open, then the server system adds the short-term order to the Web page in step 603. In step 604, if a long-term order is open, then the server system adds the long-term order information to the Web page in step 605 and completes.

[0021] Figure 7 is a flow diagram of a routine that implements an expedited order selection algorithm. The goal of the expedited order selection algorithm is to minimize the number of orders sent to each destination so that shipping costs are reduced. A destination may be a specific shipping address plus a specific purchaser's billing details. Orders that are sent to the same destination are known as "sibling orders." The algorithm has two stages. In the first stage, the algorithm schedules for shipment the orders for destinations for which all the sibling orders are filled. An order is filled when all its items are currently in inventory (i.e., available) and can be shipped. For each group of sibling orders, the algorithm combines those sibling orders into a single combined order so that only one order is currently scheduled for shipment to each destination. In the second stage, the algorithm combines and schedules groups of sibling orders for which some of the sibling orders are not filled or partially filled. The algorithm may split each partially filled sibling order into a filled sibling order and a completely unfilled sibling order. The algorithm then combines all the filled sibling orders into a single combined order and schedules the combined order for shipment. If any group has only one sibling order and that order is partially filled, then the algorithm in one embodiment does not split that order to avoid making an extra shipment to that destination.

[0022] During the second stage, the algorithm may select and schedule groups of sibling orders in a sequence that is based on the next fulfillment time for an item in the group. The next fulfillment time for a group of sibling orders is the minimum expected fulfillment time of the items in that group of sibling orders. For example, if a group of sibling orders has seven items that are not yet fulfilled and their expected fulfillment times range from 3 days to 14 days, then the next fulfillment time for that group is 3 days. The algorithm first schedules those groups of sibling orders with the largest next fulfillment time. For example, if 6 groups have next fulfillment times of 3, 5, 7, 10, 11, and 14 days, respectively, then the algorithm first selects and schedules the sibling orders in the group with the next fulfillment time of 14 days, followed by the group with the next fulfillment time of 11 days, and so on. By delaying the scheduling of groups with short next fulfillment times, the algorithm increases

the chances of additional items becoming available (because of the shortness of the next fulfillment time) and thus combined with the scheduled order.

[0023] Steps 701-703 represent the first stage of the expedited order selection algorithm, and steps 704-706 represent the second stage of the expedited selection order algorithm. In steps 701-703, the algorithm loops selecting groups in which all sibling orders are filled and combining the orders. In step 701, the algorithm selects the next group with all sibling orders that are filled. In step 703, if all such groups have already been selected, then the algorithm continues with the second stage in step 704, else the algorithm continues at step 703. In step 703, the algorithm combines and schedules the orders in the selected group and loops to step 701. In step 704, the algorithm selects the next group of sibling orders that has the largest next fulfillment time. In step 705, if all such groups have already been selected, then the algorithm is done, else the algorithm continues at step 706. In step 706, the algorithm combines and schedules the orders in the selected group and loops to step 704. When the expedited order selection algorithm is being performed, new orders and new inventory may be received. Whenever such new orders and new inventory is received, then the algorithm restarts to schedule and combine the new orders as appropriate.

[0024] Although the algorithm has been described as having two stages, it could be implemented in an incremental fashion where the assessment of the first and second stages are redone after each order is scheduled. One skilled in the art would recognize that there are other possible combinations of these stages which still express the same essential algorithm.

[0025] Figures 8A-8C illustrate a hierarchical data entry mechanism in one embodiment. When collecting information from a user, a Web page typically consists of a long series of data entry fields that may not all fit onto the display at the same time. Thus, a user needs to scroll through the Web page to enter the information. When the data entry fields do not fit onto the display at the same time, it is difficult for the user to get an overall understanding of the type and organization of the data to be entered. The hierarchical data entry mechanism allows a user to understand the overall organization of the data to be entered even though the all data entry fields would not fit onto the display at the same time. Figure 8A illustrates an outline format of a sample form to be filled in. The sample form contains various sections identified by letters A, B, C, and D. When the user selects the start button, then section A expands to include the data entry fields for the customer name and address. Figure 8B illustrates the expansion of section A. Since only section A has been expanded, the user can view the data entry fields of section A and summary information of the other sections at the same time. The user then enters data in the various data entry fields that are displayed. Upon completion, the user selects either the next or previous buttons. The next button

causes section A to be collapsed and section B to be expanded so that financial information may be entered. Figure 8C illustrates the expansion of section B. If the previous button is selected, then section A would collapse and be displayed as shown in Figure 8A. This collapsing and expanding is repeated for each section. At any time during the data entry, if an error is detected, then a Web page is generated with the error message in close proximity (e.g., on the line below) to the data entry field that contains the error. This Web page is then displayed by the client system to inform the user of the error. In addition, each of the data "entry" fields may not be editable until the user clicks on the data entry field or selects an edit button associated with the data entry field. In this way, the user is prevented from inadvertently changing the contents of an edit field. When the user clicks on a data entry field, a new Web page is presented to the user that allows for the editing of the data associated with the field. When editing is complete, the edited data is displayed in the data "entry" field. Because the fields of the form are thus not directly editable, neither "named-submit" buttons nor Java are needed. Also, the form is more compact because the various data entry options (e.g., radio button) are displayed only on the new Web page when the field is to be edited.

[0026] In other embodiments, the present invention provides a mechanism for giving a gift to an identified recipient(s) using a single action. When information is displayed describing the item, the system displays an instruction to identify the recipient(s) and then to select a "give" button to effect the giving of the item to the identified recipient(s). If the user is giving the gift to only one recipient, then the user enters identifying information, such as the email address, of the recipient. If the user is giving the gift to more than one recipient, the user could enter the identifying information of each recipient, or alternatively, the user could enter a group name that is associated with the identifying information for each member (i.e., recipient) of the group. The system uses the identifying information to identify a delivery address for the gift. As described in more detail below, the system can use various databases to locate information for an identified recipient.

[0027] Figures 9A-9B illustrate use of a single-action to give an item as a gift to one or more recipients. Figure 9A illustrates the giving of a gift to one recipient. The sections 101-104 are the same as described for Figure 1A. The gift giving section 901 contains an instruction subsection 901a, an identifying information subsection 901b, and a single-action giving subsection 901c. To effect the giving of the item to a recipient, the user enters the email address of the recipient in the identifying information subsection 901b and then selects the single-action giving subsection 901c. The system receives the email address and uses the email address to locate the delivery address for the recipient as described below in detail. The system bills the item to the user

based on information stored for that user for single-action ordering and ships the item to the recipient at the delivery address. As described below, the system can allow many different types of identifying information to be specified by the user.

[0028] Figure 9B illustrates the giving of a gift to multiple recipients. The gift giving section 902 contains an instruction subsection 902a, a group name subsection 902b, and a single-action giving subsection 902c. To effect the giving of the item to multiple recipients, the user inputs a name of the group that identifies the recipients into the group name subsection 902b and then selects the single-action giving subsection 902c. The system uses the group name to identify a list of recipients who are associated with the group name. Figure 10 illustrates a grid for creation of a group and the entry of identifying information for recipients associated with the group (i.e., members). The user enters the group name in group name section 1001 and then enters information relating to the recipients in each row of the member information section 1002. The user can enter as much information about each recipient associated with the group as is known by the user. For example, the user may enter only the email address for some users, while entering the name, email address, and delivery address of other recipients. When the system is requested to give an item to each recipient associated with a group, the system uses the information stored for each recipient to identify additional information need to effect the delivery of the gift as described below. The system may also store the identified additional information for each recipient so that when another item is subsequently given to that recipient, the additional information needed to effect the delivery of the item can be quickly retrieved. Alternatively, a single address book for a user containing the information for all possible recipients can be maintained. The user specifies a group by indicating some of the recipients whose addresses are in the address book. The use of address books facilitates the maintaining of multiple groups that have one or more recipients in common. In addition, a user can at any time provide additional information about a recipient to facilitate the retrieval of sufficient information to effect the delivery of an item.

[0029] A computer-based method and system for coordinating the delivery of gifts by receiving gift orders, collecting additional delivery information that is not specified in the gift orders, and delivering gifts based on the additional delivery information is also provided. In one embodiment, the gift delivery system of the present invention receives gift orders via Web pages provided on the WWW. The gift orders specify a gift that is to be delivered to a recipient. The recipient may be identified by information that does not include the delivery address of the recipient. For example, the recipient may be only identified by a name and contact information such as an electronic mail address or a telephone number. The gift delivery system attempts to contact the

recipient to obtain sufficient delivery information. If the contact is not successful, the gift delivery system searches various databases of information to identify additional contact information. If sufficient delivery information is obtained, the gift is delivered to the recipient and the gift giver is notified accordingly. If, however, sufficient delivery information cannot be obtained, the gift giver is notified that the gift cannot be delivered.

[0030] Figure 11 is a flow diagram of the overall flow of the gift delivery system. In step 1101, the gift delivery system receives the order for a gift from a gift giver. In one embodiment, the order is received via access through a Web page, but may also be received via other modes of communication, such as a voice telephone call, postal mail, facsimile, or electronic mail. In step 1102, the gift delivery system attempts to contact the recipient of the gift. The gift order may specify contact information for the recipient, such as an electronic mail address or a telephone number of the recipient. Based on the contact information provided with the gift order, an attempt via electronic mail or an automated voice telephone call is made to initially contact the recipient and gather sufficient delivery information. Alternatively, a person may attempt to make a voice telephone contact with the recipient. In step 1103, if the initial contact is successful, then the system continues at step 1106, else the system continues at step 1104. In step 1104, the system attempts to collect additional contact information. The system can obtain the additional contact information through various database sources using the information provided with the gift order. For example, the system can use the recipient's name or the recipient's electronic mail address to access Internet-based database systems. In step 1105, if the system obtains additional contact information from these additional sources, then the system loops to step 1102 to attempt to contact the recipient using the additional contact information, else the system continues at step 1111. In step 1106, the system collects delivery information from the successful contact. For example, if the successful contact is a phone call, the operator making the phone call preferably enters the delivery information. If the successful contact is an electronic mail exchange, the system preferably parses the recipient's reply message to collect the delivery information. In step 1107, the system verifies that the delivery information is correct. The system may use various databases, which contain lists of all proper street addresses, to verify the address. In step 1108, if the delivery information is verified, then the system continues at step 1109 to send the gift to the recipient, else the system continues at step 1111. In step 1109, the system sends the gift to the recipient. In step 1110, the system sends an electronic mail to the gift giver providing notification that the gift has been sent successfully. In step 1111, if sufficient delivery information could not be gathered or the delivery information could not be verified, then the system sends a message (e.g., via electronic mail) to the gift giver pro-

viding notification that the gift could not be delivered and is being placed on hold.

[0031] In an additional embodiment (not shown), if an attempt to contact the recipient is unsuccessful in step 1103, then the system attempts to obtain additional delivery information for the recipient from sources other than the recipient, such as databases and other sources similar to those discussed below in conjunction with Figure 8. If the system is able to obtain sufficient delivery information for the recipient in this manner, the system preferably sends the gift to the recipient using the obtained delivery information.

[0032] Figure 12 is a block diagram illustrating the components of the gift delivery system. Computer system 1201 contains a central processing unit, memory, and peripheral devices, such as a disk drive and CD-ROM. The gift delivery system includes an order entry system 1202 and an order delivery system 1203. The order entry system provides a user interface for a gift giver to input a gift order. The order entry system in one embodiment comprises a Web page that accesses a gift database 1204. The gift giver uses the Web page provided to select which gift should be sent to the recipient. In addition, the gift giver provides information describing the recipient. The order entry system then stores the order information in the order database 1205. The gift delivery system controls the locating of additional delivery information so that the gift can be successfully delivered to the recipient. The gift delivery system retrieves information from the order database and attempts to contact the recipient based on the information provided with the gift order. If the recipient cannot be contacted based on that information, then the gift delivery system accesses other database sources, such as the customer database 1206 and Internet-based databases 1208 to gather additional contact information for the recipient.

[0033] Figure 13 is a state diagram illustrating the various states of a gift order. A gift order can be in one of six states: received, response pending, verifying delivery information, collecting additional contact information, on hold, and scheduled for delivery. Initially, when an order is received, the system places the order in the received state 1301. When the system attempts to contact the recipient using the information provided by the gift giver, the gift order changes to a response pending state 1302. The response pending state indicates that the attempt to contact is in progress, but no response has yet been received from the recipient. If a sufficient response is received from the recipient in the allotted time (e.g., 24 hours), then the gift order changes to the verifying delivery information state 1303. In the verifying delivery information state, the system attempts to verify that the delivery information is correct. If the delivery address is correct, then the gift order enters the scheduled for delivery state 1304. If the initial response was insufficient or not received in the allotted time, then the system places the gift order in the collecting additional

contact information state 1305. In the collecting additional contact information state, the system searches additional sources of information to determine additional contact information about the recipient. If additional contact information can be found, then the system attempts an additional contact, and places the gift order in the response pending state 1302. If however, additional contact information cannot be found, then the system places the gift order in the on hold state 1306.

[0034] In a further preferred embodiment, if the initial response is insufficient, then the system places the gift order in a collecting additional delivery information state (not shown). In the collecting additional delivery information state, the system searches additional sources of information to obtain additional delivery information for the recipient. If the system is able to obtain sufficient delivery information in this manner, then the system places the gift order in the verify delivery information state 1303. Otherwise, the system places the gift order in the on hold state 1306.

[0035] Figure 14 is a flow diagram of a routine that controls the receiving of gift orders. The receive gift order routine controls the interaction with the gift giver to select a gift from the gift database, to receive information on the recipient, to receive the payment, and to store the gift order in a database. This routine processes gift orders received electronically. One skilled in the art would appreciate that similar routines could be developed to handle other forms of receiving gift orders. In step 1401, the routine receives a request to send a gift from a gift giver to a recipient electronically via a Web page. In step 1402, the routine creates a session with the gift giver. The session is used to track the interaction with the gift giver and the gift delivery system. In step 1403, the routine receives the gift selection information. The gift selection information may be selected in response to a display of available gifts from the gift database. In step 1404, the routine receives recipient contact information from the gift giver. The recipient contact information may typically include the recipient's name and electronic mail address. In step 1405, the routine receives payment information. The payment information may be in an electronic form, such as a credit card, debit card, or digital cash, or in a conventional form, such as check or money order. If in conventional form, the gift order may be placed in an additional state waiting for receipt of the payment. In step 1406, if the payment is approved, then the routine continues at step 1408, else the routine notifies the gift giver that the payment has been denied. In step 1408, the routine assigns a gift order tracking number to the gift order. The gift order tracking number is used by the system to identify the gift order throughout its processing. In step 1409, the routine stores the gift order information in the gift order database. In step 1410, the routine notifies the gift giver that the gift order has been accepted. In step 1411, the routine ends the session with the gift giver.

[0036] Figure 15 is a block diagram of a routine that



controls the attempt at first contact of the recipient. The first contact is made with contact information provided by the gift giver, such as electronic mail address and telephone number. If sufficient information is not provided to even attempt to contact the recipient initially, the gift delivery system searches various databases to obtain such information based on the recipient's name. In step 1501a, if the recipient's electronic mail address has been provided in the gift order, then the routine continues at step 1501b, else the routine continues at step 1502a. In step 1501b, the routine sends an electronic mail to the electronic mail address provided. The electronic mail contains information indicating that a gift is to be sent to the recipient and requests delivery information for the gift. The electronic mail includes the tracking number assigned by the system so that when a reply mail is received, the gift delivery system can determine to which gift order it corresponds. In step 1502a, if the recipient's phone number has been provided, then the routine continues at 1502b, else the routine continues various other attempts to contact the recipient. For example, if a facsimile number was provided, a facsimile message is sent to the number. In step 1502b, the routine schedules an initial telephone contact with the recipient. The initial telephone contact could be via an automated voice telephone system in which a message is left with the person answering the phone or with an answering machine. Alternatively, a human operator may make the initial voice contact. After the initial contact is made, the gift order is placed in response pending state.

[0037] Figure 16 is a flow diagram of a routine that controls the processing of the initial voice telephone contact. This routine can either display information for a human operator or provide information to an automated operator. In step 1601, if the telephone has been answered, then the routine continues at step 1602, else the routine leaves the gift order still scheduled for initial contact. In step 1602, if a message is left either with a person or a voicemail system, then the routine continues at step 1603, else the routine leaves the gift order still scheduled for initial contact. In step 1603, if a sufficient response has been received, then the routine continues at step 1605, else the routine continues at step 1604. In step 1604, the routine schedules the gift order for searching for additional contact information relating to the recipient. In step 1605, the routine updates the order database with the additional information about the recipient. In step 1606, the routine schedules the gift order to have its delivery information verified and changes its state to verifying delivery information.

[0038] Figure 17 is a flow diagram of a routine that controls the processing of the initial response. The initial response can be via electronic mail, voice telephone, or facsimile message. In step 1701, if the tracking number is included in the response, then the routine continues at step 1702, else the routine continues at step 1704. In step 1702, the routine verifies the tracking number using

the gift order database. In step 1703, if the tracking number has been verified, then the routine continues at step 1706, else the routine continues at step 1704. In step 1704, the routine attempts to find the tracking number based on the information provided in the response. In step 1705, if the tracking number can be found, then the routine continues at step 1706, else the routine continues at step 1707. In step 1706, if the response contains sufficient delivery information so that the gift order can be delivered, then the routine continues at step 1708, else the routine continues at step 1707. In step 1707, the routine schedules the order for searching for additional delivery information. In step 1708, the routine schedules the order to have its delivery information verified and changes its state to verify delivery information.

[0039] Figure 18 is flow diagram of a routine that controls the collecting of additional contact information. This routine searches various database sources based on the information provided in the gift order. For example, in step 1801, the routine searches Internet-based telephone and electronic mail directories, such as Switchboard, Four11, and Accumail. In step 1802, the routine searches various CD-ROM databases of telephone and electronic mail information, such as Select-Phone. In step 1803, the routine searches the local database of customer information. The local database of customer information contains information of previous recipients and gift givers. In step 1804, the routine searches various Internet-based search engines, such as Digital Equipment's Alta Vista or Intoseek's Ultra-seek. In step 1805, the routine uses the electronic mail address or telephone number to identify the geographic location of the recipient. In particular, the routine accesses the InterNIC Registration Services of Network Services for the domain name registration of the recipient's electronic mail address. Alternatively, the routine accesses the standard table of area codes and telephone number prefixes to determine the geographic locale of the recipient. The gift delivery system can use each of these information sources, a subset of these information source, or additional information source to locate the additional information. In step 1806, the routine analyzes the retrieved information to determine the information that most likely corresponds to the recipients based on geographic or contextual matches. This analysis may be done electronically or interactively with a human operator. In step 1807, the routine stores the retrieved and analyzed information and the gift order database. In step 1808, the routine displays the information to a human operator and requests instructions on further processing. The instructions can either be to place the order on hold because sufficient delivery information has not been collected, send an initial contact to the recipient, or proceed with delivery of the gift.

[0040] Figure 19 is a flow diagram of a routine that controls the verifying of the delivery information. The gift delivery system verifies the delivery information to

ensure that the gift is being sent to a deliverable address. In step 1901, the routine checks the validity of the delivery information automatically. The routine uses a database of U.S. Postal Service addresses to determine whether the delivery address is a valid U.S. Postal Service address. In step 1902, if the address is valid, then the routine continues at step 1906, else the routine continues at step 1903. In step 1903, the routine prompts a human operator for manual verification of the address. In step 1904, if the operator has manually verified the address, then the routine continues at step 1906, else the routine continues at step 1905. In step 1905, the routine notifies the gift giver that the order cannot be fulfilled and places the order on hold. In step 1906, the routine schedules the gift for delivery and notifies the gift giver accordingly.

[0041] Although the present invention has been described in terms of various embodiments, it is not intended that the invention be limited to these embodiments. Modification within the spirit of the invention will be apparent to those skilled in the art. For example, the server system can map a client identifier to multiple customers who have recently used the client system. The server system can then allow the user to identify themselves by selecting one of the mappings based preferably on a display of partial purchaser-specific order information. Also, various different single actions can be used to effect the placement of an order. For example, a voice command may be spoken by the purchaser, a key may be depressed by the purchaser, a button on a television remote control device may be depressed by the purchaser, or selection using any pointing device may be effected by the purchaser. Although a single action may be preceded by multiple physical movements of the purchaser (e.g., moving a mouse so that a mouse pointer is over a button), the single action generally refers to a single event received by a client system that indicates to place the order. Finally, the purchaser can be alternately identified by a unique customer identifier that is provided by the customer when the customer initiates access to the server system and sent to the server system with each message. This customer identifier could be also stored persistently on the client system so that the purchaser does not need to re-enter their customer identifier each time access is initiated. The scope of the present invention is defined by the claims that follow.

#### Claims

1. A method for placing an order to purchase an item, the order being placed by a purchaser at a client system and received by a server system, the method comprising:

under control of the server system,

receiving purchaser information including

identification of the purchaser, payment information, and shipment information from the client system;  
 assigning a client identifier to the client system;  
 associating the assigned client identifier with the received purchaser information;  
 sending to the client system the assigned client identifier; and  
 sending to the client system display information identifying the item and including an order button;

under control of the client system,

receiving and storing the assigned client identifier;  
 receiving and displaying the display information; and  
 in response to the selection of the order button, sending to the server system a request to purchase the identified item, the request including the assigned identifier; and

under control of the server system,

receiving the request; and  
 combining the purchaser information associated with the client identifier included with the request to generate an order to purchase the item in accordance with the billing and shipment information whereby the purchaser effects the ordering of the product by selection of the order button.

2. The method of claim 1 wherein the purchaser information is received when the purchaser placed a previous order.

3. A method for ordering an item using a client system, the method comprising:

displaying information identifying the item and displaying an indication of an action that is to be performed to order the identified item; and  
 in response to the indicated action being performed, sending to a server system a request to order the identified item whereby the server system uses an identifier of a customer ordering the item to identify additional information needed to generate an order for the item.

4. The method of claim 3 wherein the identifier identifies the client system and the server system provides the identifier to the client system.

5. The method of claim 3 wherein the client system and server system communicate via the Internet.
6. The method of claim 3 wherein the identifier is provided by the server system. 5
7. The method of claim 3 wherein the displaying includes displaying an HTML document provided by the server system. 10
8. The method of claim 3 including sending from the client system to the server system a confirmation that the order was generated. 10
9. The method of claim 3 wherein the action is a single action. 15
10. The method of claim 9 wherein the single action is clicking a mouse button when a cursor is positioned over a predefined area of the displayed information. 20
11. The method of claim 9 wherein the single action is a sound generated by a user.
12. The method of claim 9 wherein the single action is selection using a television remote control. 25
13. The method of claim 9 wherein the single action is depressing of a key on a key pad. 30
14. The method of claim 9 wherein the single action is selecting using a pointing device.
15. The method of claim 9 wherein the single action is selection of a displayed indication. 35
16. The method of claim 3 wherein the displaying includes displaying partial information supplied by the server system as to the identity of the user. 40
17. The method of claim 3 wherein the displaying includes displaying partial shipping information supplied by the server system.
18. The method of claim 3 wherein the displaying includes displaying partial payment information supplied by the server system. 45
19. The method of claim 3 wherein the indicated action is selecting a button and that button indicates to enable single-action ordering when currently not enabled. 50
20. The method of claim 3 when the displaying includes displaying a moniker identifying a shipping address for the customer. 55
21. A method in a server system for generating an order for an item, the method comprising:
  - receiving user information for users of a plurality of client systems;
  - for each client system,
    - storing the received user information in association with an identifier; and
    - providing the identifier to the client system;
  - when requested by a client system, providing information describing the item to the requesting client system;
  - receiving a request from a client system to order the item, the request indicating the identifier and an indication of the item; and
  - combining the user information stored in association with the indicated identifier to effect the ordering of the item for the user of the client system identified by the indicated identifier.
22. The method of claim 21 including providing partial user information to the client system so that the user can verify whether the identifier is associated with correct user information.
23. The method of claim 21 wherein the server system associates user information for a plurality of users with one identifier and wherein a user designates which associated user information to use.
24. The method of claim 21 wherein the user information is received when orders are placed.
25. The method of claim 21 wherein multiple orders are combined into a single order.
26. The method of claim 21 wherein multiple orders are combined into separate orders based on expected shipment date.
27. The method of claim 21 wherein the identifier uniquely identifies the user.
28. The method of claim 21 wherein the identifier uniquely identifies a client system.
29. The method of claim 28 wherein the identifier is associated with different users at different times.
30. The method of claim 28 wherein the identifier is associated with multiple users at the same time.
31. The method of claim 28 wherein multiple identifiers are associated with one user at the same time.
32. A method in a computer system for scheduling orders for a plurality of destinations, the orders to

- be shipped to the same destination being sibling orders, the method comprising:
- scheduling the sibling orders for each destination for which all the sibling orders are filled so that multiple filled sibling orders can be shipped together; and  
after scheduling such sibling orders, scheduling sibling orders for each destination for which at least one of the sibling orders has an available item.
33. The method of claim 32 wherein the scheduling of sibling orders for which at least one of the sibling orders has an available item includes scheduling those sibling orders with the largest next fulfillment time first.
34. The method of claim 32 wherein when a new order is received, the steps of the method are restarted.
35. The method of claim 32 wherein when inventory is received, the steps of the method are restarted.
36. A method of placing an order for an item comprising:
- under control of the client system,
- displaying information identifying the item; and  
in response to a predefined action being performed, sending a request to order the item along with an identifier of a purchaser of the item to a server system; and
- under control of the server system,
- receiving the request;  
retrieving additional information previously stored for the purchaser identified by the identifier in the received request; and  
generating an order for the purchaser identified by identifier in the received request.
37. The method of claim 36 wherein the displaying of information includes displaying information indicating the predefined action.
38. The method of claim 36 wherein the predefined action is clicking a button.
39. The method of claim 36 wherein the predefined action is speaking of a sound.
40. The method of claim 36 wherein the predefined action is a single action.
41. The method of claim 36 wherein a user of the client system does not need to explicitly identify themselves when placing an order.
42. A client system for ordering an item comprising:
- an identifier that identifies a customer;  
a display component for displaying information identifying the item; and  
an item ordering component that in response to performance of a predefined action, sends a request to a server system to order the identified item, the request including the identifier so that the server system can locate additional information needed to complete the order.
43. The client system of claim 42 wherein the display component is a browser.
44. The client system of claim 42 wherein the predefined action is the clicking of a mouse button.
45. A server system for generating an order comprising:
- a data storage medium storing information for a plurality of users;  
a receiving component for receiving requests to order an item, the request including an indication of one of the plurality of users; and  
an order placement component that retrieves from the data storage medium information for the indicated user and that uses the retrieved information to place an order for the indicated customer for the item.
46. The server system of claim 45 wherein the request is sent by a client system in response to a single action being performed.
47. A computer-readable medium containing instructions for causing a computer system to perform the method of claim 3.
48. A computer-readable medium containing instructions for causing a computer system to perform the method of claim 21.
49. A method in a computer system for coordinating the delivery a gift given by a gift giver to a recipient, the method comprising:
- receiving an order from the gift giver, the order identifying a gift to be delivered to the recipient and having contact information describing the recipient;  
storing the received order in an order database along with an order tracking number;

sending a communications to the recipient based on the contact information, the communications requesting delivery information for the gift, the communications including the order tracking number so that the recipient can include the order tracking number in a responds to the communications for identification of the stored order;

when the recipient does not respond to the communications, collecting additional delivery information for the gift based on the contact information;  
when potential delivery information for the gift has been identified, verifying whether the potential delivery information is valid; and  
when the delivery location has been verified as being valid,

sending the gift in accordance with the delivery information; and  
notifying the gift giver that the gift has been sent to the recipient.

50. The method of claim 49 wherein the sending of a communications includes sending an electronic mail.

51. The method of claim 49 wherein the order is received via access through a Web page.

52. The method of claim 49 wherein the delivery information is an address and where the verifying includes:

checking a database of valid addresses to determine whether the address can be determined to be valid address; and  
when the address can be determined to be a valid address, indicating that the delivery information has been verified; and  
when the address cannot be determined to be a valid address,

prompting a person to indicate whether the address is valid; and  
when the person indicates that the address is valid, indicating that the delivery information has been verified.

53. The method of claim 49 wherein the collecting of additional delivery information includes collecting information from one or more information sources that include an Internet-based telephone database, an Internet-based electronic mail database, a local telephone database, a local electronic mail database, a database of previous recipients and gift givers, an Internet-based search engine, and a database of information relating to the domain

name registration of an electronic mail address of the recipient.

54. The method of claim 49 wherein the communications is a telephone call placed to the recipient.

55. The method of claim 49 including when the gift cannot be delivered to the recipient, notifying the gift giver that the gift cannot be delivered.

56. A method in a computer system for coordinating delivery of a gift from a gift giver to a recipient, the gift and recipient being specified in a gift order, the method comprising:

determining whether the gift order includes sufficient information so that the gift can be delivered to the recipient;

when sufficient information is not provided in the gift order, obtaining delivery information from one or more information sources; and  
when sufficient delivery information can be obtained from the additional information sources so that the gift can be delivered to the recipient, directing the gift to be sent to the recipient as indicated by the delivery information.

57. The method of claim 56 including receiving the gift order electronically.

58. The method of claim 56 wherein when the gift order contains information such that the recipient can be contacted, obtaining the delivery information by contacting the recipient directly.

59. The method of claim 56 wherein the recipient is contacted directly by sending an electronic mail.

60. The method of claim 56 wherein the recipient is contacted directly by a voice telephone call.

61. The method of claim 56 wherein the obtaining of delivery information includes collecting information from one or more information sources selected from among an Internet-based telephone database, an Internet-based electronic mail database, a local telephone database, a local electronic mail database, a database of previous recipients and gift givers, an Internet-based search engine, and a database of information relating to the domain name registration of an electronic mail address of the recipient.

62. A computer-based gift delivery system for coordinating the delivery of a gift from a gift giver to a recipient, comprising:

an order entry component for providing a selection of available gifts, for receiving a selection of a gift, for receiving contact information describing the recipient, and for storing the gift order; and

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a gift delivery component for retrieving the stored gift order, for determining whether the contact information includes sufficient delivery information to deliver the gift to the recipient, for when sufficient delivery information is not included, obtaining additional information about the recipient by attempting to contact the recipient and by searching various databases of information, and for directing the sending of the gift to the recipient when sufficient delivery information has been obtained.

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63. The gift delivery system of claim 62 wherein the order entry component assigns an order tracking identification to each gift order and wherein the gift delivery component includes the order tracking identification when attempting to contact the recipient.
64. The gift delivery system of claim 62 wherein the gift delivery component searches various Internet-based databases using the recipient name or electronic mail address.
65. The gift delivery system of claim 62 wherein the order entry component receives payment electronically.
66. The gift delivery system of claim 62 wherein the order entry component is accessed via Web pages.

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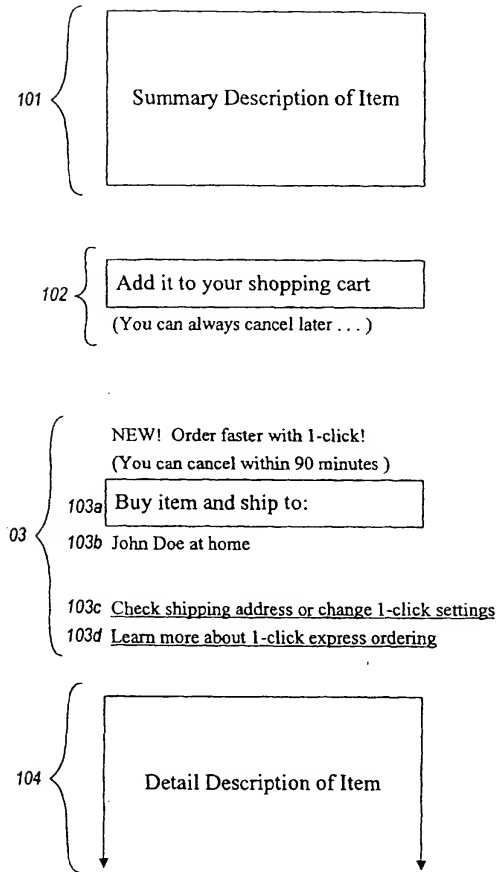
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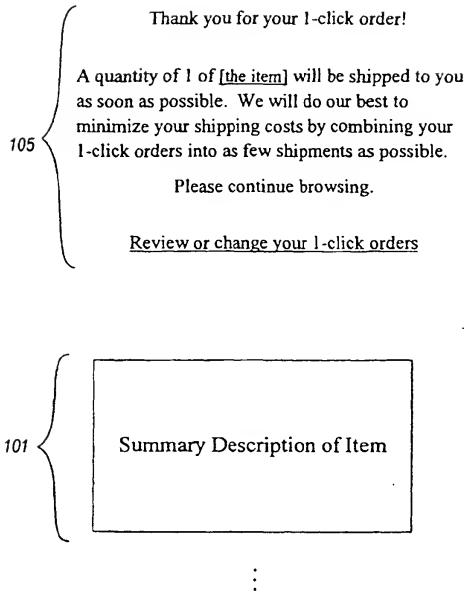
45

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*Fig. 1A*



**Fig. 1B**



## Summary of 1-Click Express Orders

Press this button if you Changed Quantities of any item below. If you don't press it, your changes won't "stick." You can set the quantity to 0 (zero) to cancel an item.

The 1-click orders below (available in 3 or fewer days) will be shipped together.

106 {

Order # 098337			
<input type="text" value="1"/>	Item 1		\$10.00
<input type="text" value="1"/>	Item 2		\$15.00
	Total		\$25.00

The 1-click orders below (available in one week or more) will be shipped together.

107 {

Order # 098336			
<input type="text" value="1"/>	Item 3		\$20.00
<input type="text" value="1"/>	Item 4		\$ 6.00
	Total		\$26.00

108 {

Ship to:	John Doe at home
Shipment Method:	Standard Domestic Shipping
Payment Method:	****_****_****1_2345
<input type="button" value="Continue Shopping"/>	

[1-Click Express shipping policies](#)

*Fig. 1C*

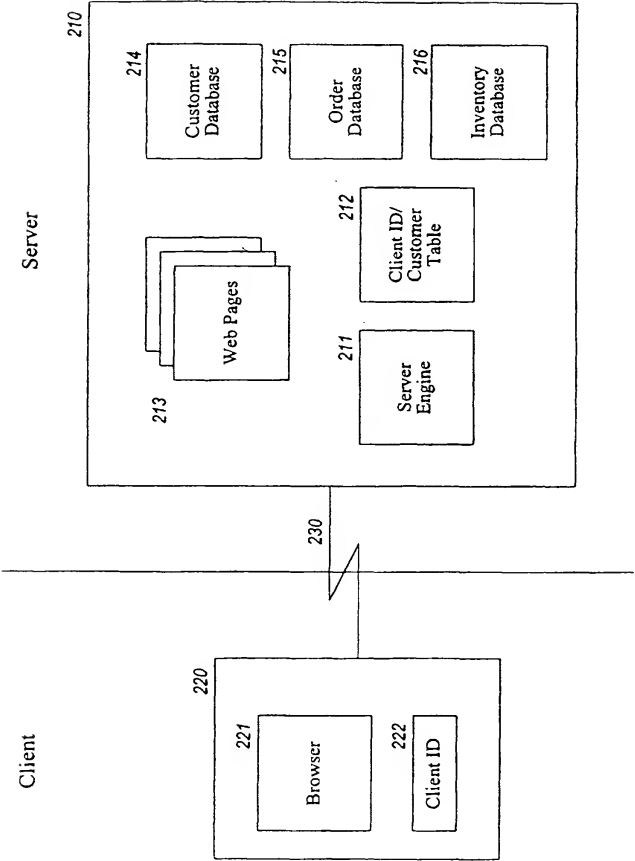
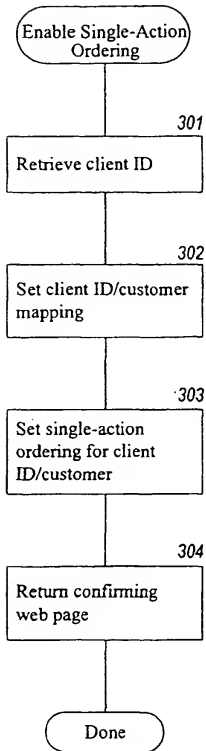
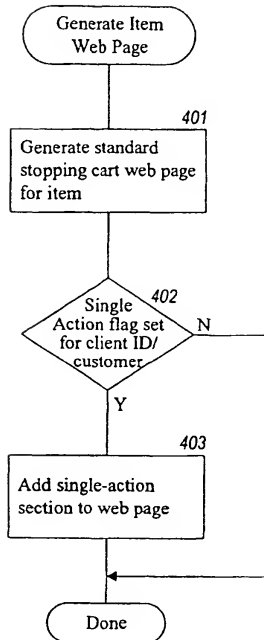


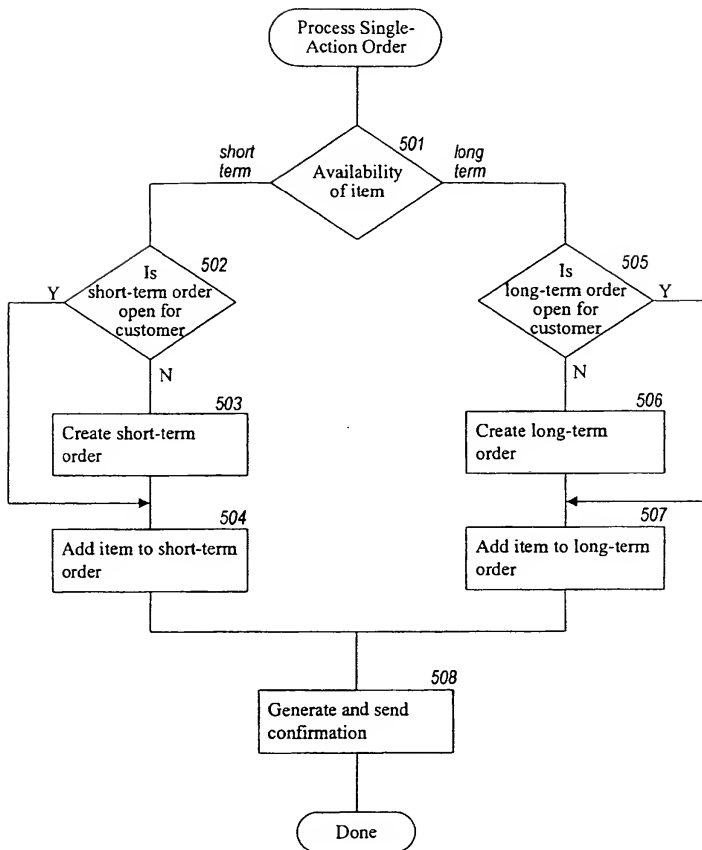
Fig. 2

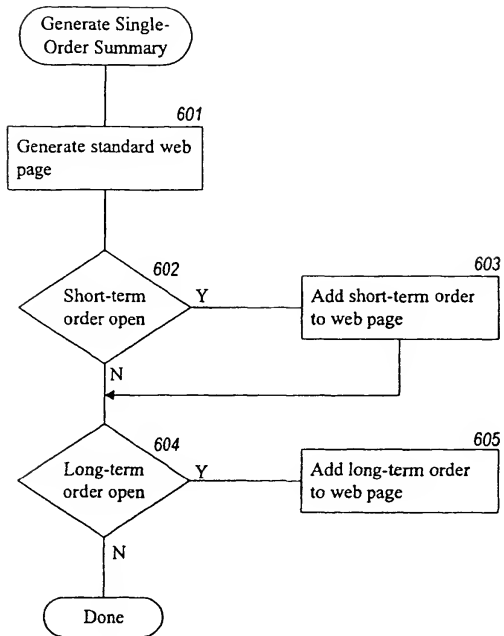


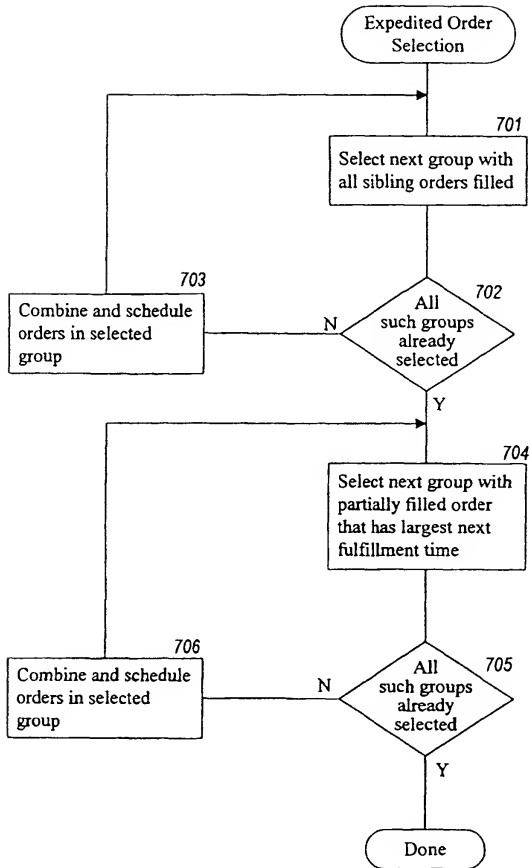
*Fig. 3*



**Fig. 4**

*Fig. 5*

*Fig. 6*

*Fig. 7*

START

- A: Customer Name & Address
- B: Customer Financial Info
- C: Customer Employment Info
- D: Customer Education Info
- .
- .
- .

*Fig. 8A*

A: First Name :

M.I. :

Last Name :

Street :

City :

State :  Zip :

- B: Customer Financial Info
- C: Customer Employment Info
- D: Customer Education Info
- .
- .
- .

*Fig. 8B*



A: Customer Name & Address

B: Net Worth:

Annual Income:

Spouse's Annual Income:

Other Income:

C: Customer Employment Info

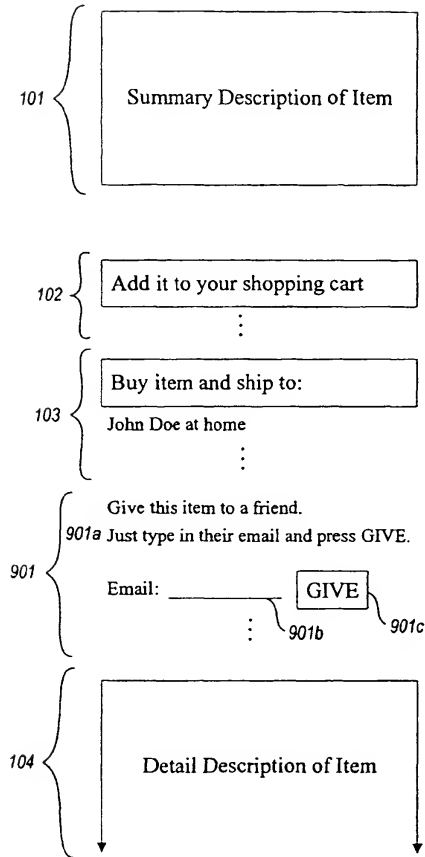
D: Customer Education Info

.

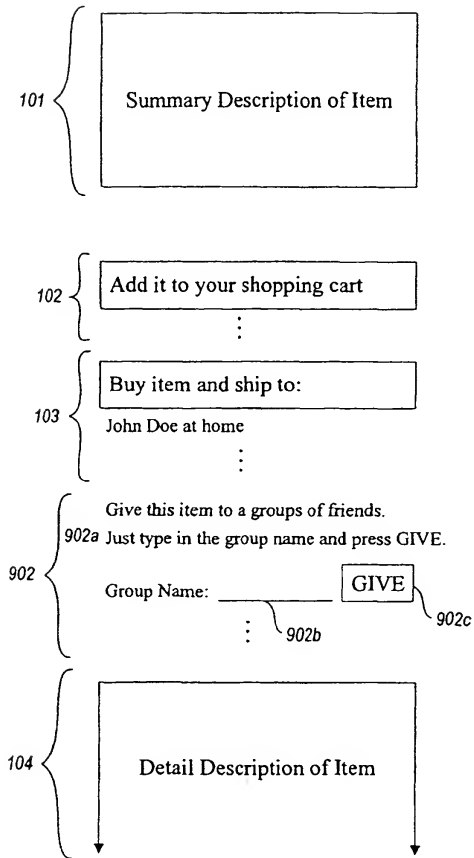
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.

***Fig. 8C***



*Fig. 9A*



*Fig. 9B*

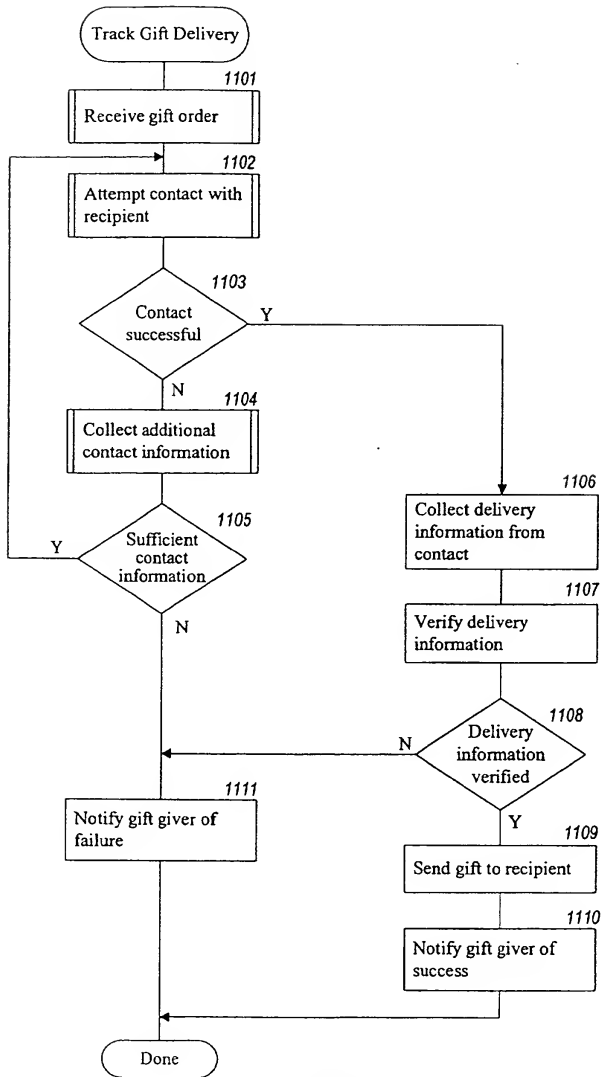
Create Group

Group Name: \_\_\_\_\_ <sup>1001</sup>

Member Information

Name	Email	Delivery Address . . .	
		⋮	

**Fig. 10**

*Fig. 11*

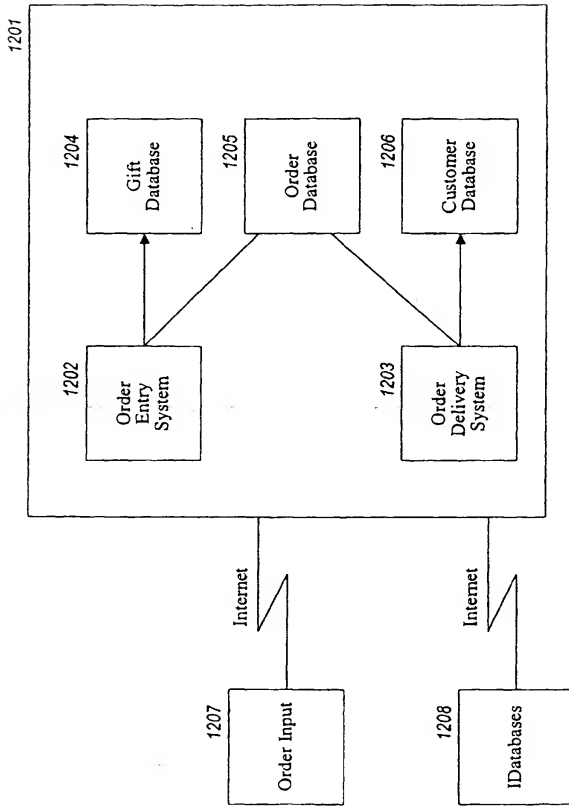
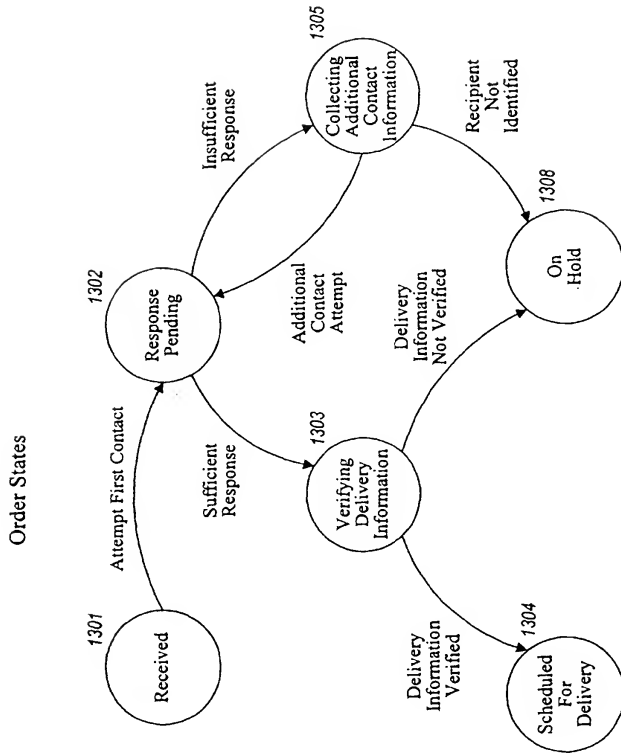
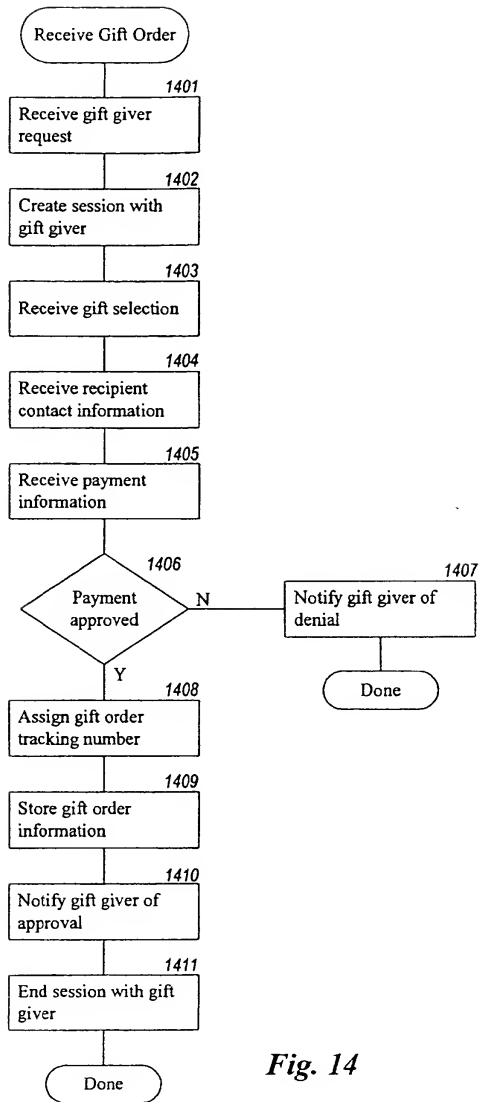
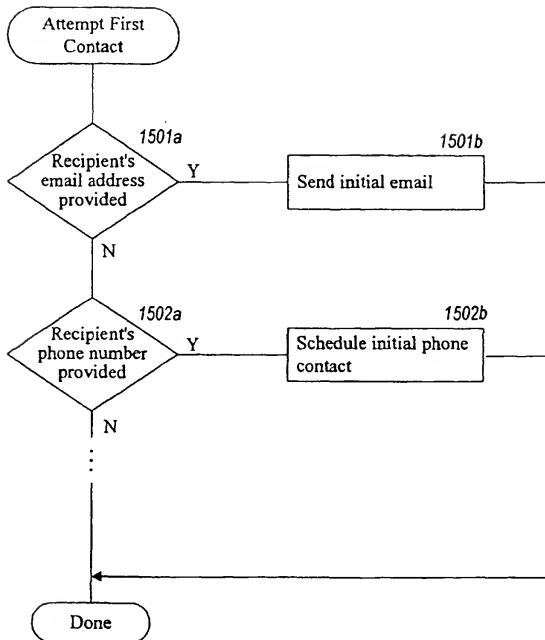


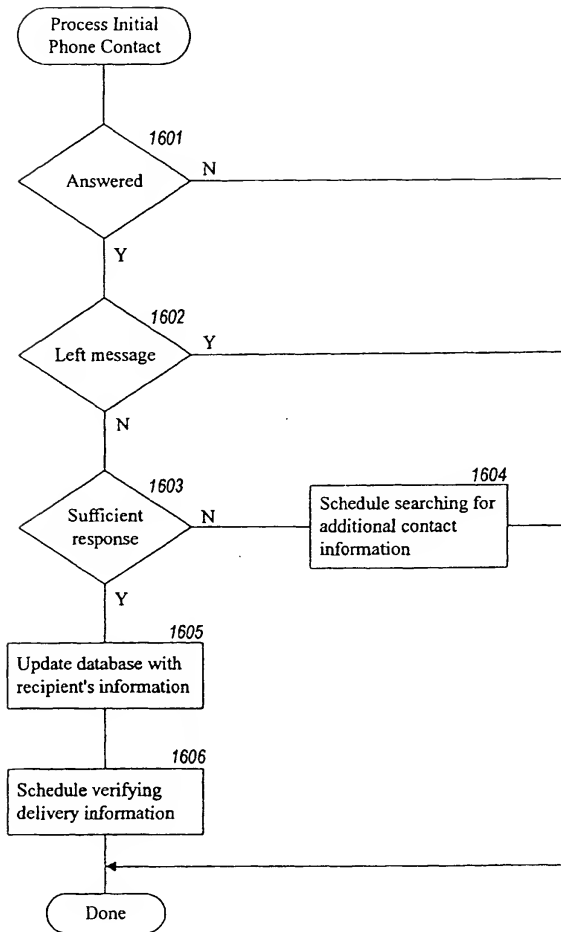
Fig. 12

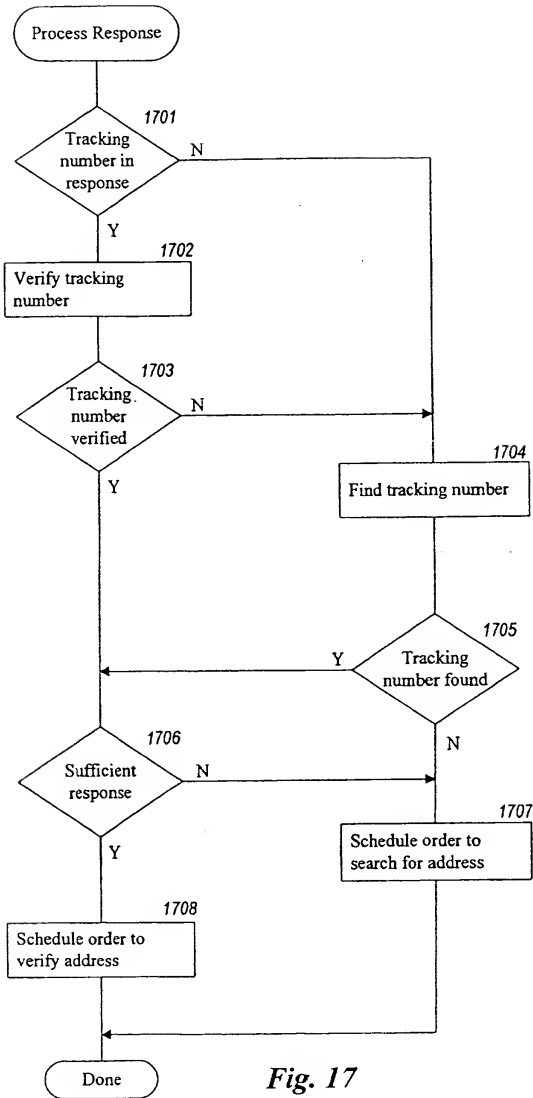
**Fig. 13**

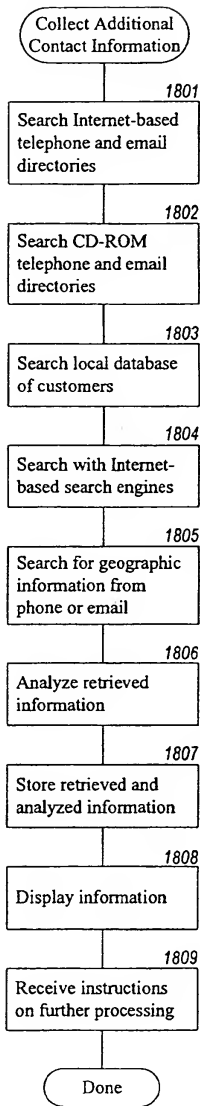
*Fig. 14*

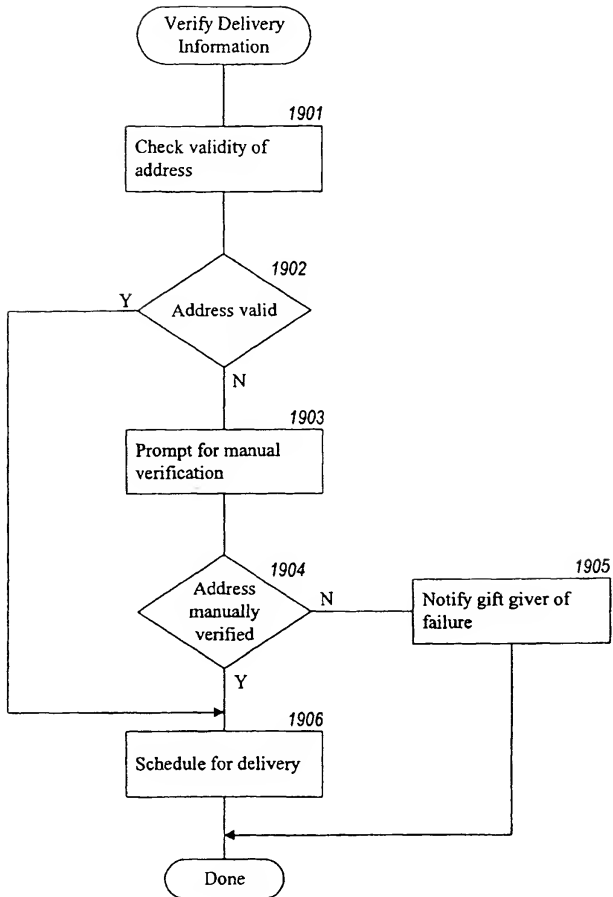


*Fig. 15*

*Fig. 16*

*Fig. 17*

*Fig. 18*

*Fig. 19*



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Applicant: ByVideo, Inc., 225 Humboldt Court, Sunnyvale  
California 94086 (US)

Inventor: Bushnell, Nolan Kay, 3859 Woodside Road,  
Woodside California 94062 (US)  
Inventor: Delman, Howard D., 415 South 12th Street, San  
Jose California 95112 (US)  
Inventor: Dexter, Douglas V., 18982 Newton, Santa Ana  
California 92705 (US)  
Inventor: Hector, Roger Donald, 3648 Deedham Drive,  
San Jose California 95148 (US)  
Inventor: Dexter, Edward David, 245 South 17th Street,  
San Jose California 95112 (US)  
Inventor: Wallace, Kurt F., 42 West Summit, Redwood  
City California 94062 (US)

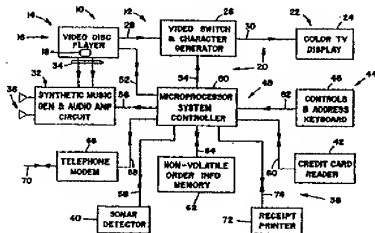
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Representative: Tomlinson, Kerry John et al, Frank B.  
Dehn & Co. European Patent Attorneys Imperial  
House 15-19 Kingsway, London WC2B 6UZ (GB)

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Video display system for marketing items.

A video terminal for marketing items including a video disc player 16 and video disc 18 for storing video and audio about the items, a video display 24 and audio amplifier 32 to communicate this information to a user of the terminal, a sonar detector 40, which detects the proximity of the user and a credit card reader 42, which detects a credit card, for fully activating the terminal, a keyboard 46 for entering item order information such as user name, and a data processor 50 to control the terminal. Also included is a unique video switch and character generator 26 for displaying text on the video display 24.



- 1 -  
TITLE MODIFIED  
see front page

Video Display System

Technical Field

This invention relates to apparatus for marketing items and, more particularly, to video display systems for displaying and selling various items.

Background Art

Constantly changing marketing techniques and devices are being created to take advantage of developing high-technology innovations with the intent of making it easier and less time-consuming for consumers to be informed of and purchase items. For example, video display systems are utilized in department stores for advertising for sale a variety of consumer products. The video systems have a video display, a video disc and a video disc player that can be activated by a consumer. The video disc has prestored video information which is retrieved by the video disc player and then displayed on the video display. The prestored video information can include video picture information for displaying pictures of the products that are for sale and pricing information associated with each of the products. A consumer can operate the video display system to view the products and their prices, complete a separate order form for desired products and then give the order form together with the purchase price, either using cash or a credit card, to a department store salesperson.

While the prior video display systems do make advantageous use of the high-technology innovations for marketing products, they are not highly efficient. For example, the pricing information, being prestored permanently on the video disc, cannot be changed to reflect current prices. Furthermore, the prior video display systems, when displaying still or freeze frames of pictures of products, do not have accompanying sounds that can assist the consumer in the product selection process. Also, the need to complete and deliver to the salesperson an order form is relatively time consuming, particularly if there are waiting lines at the purchase order counter. Moreover, the video display systems can be activated by anyone, such as children who might not be capable of ordering any products but who might play with the systems.

In another aspect concerning video display systems in general, broadcast standards define all the timing relationships for displaying video information on CRT displays. Thus, if in addition to TV pictures, textual data such as pricing information is to be simultaneously displayed on the display, precise timing relationships must be maintained between the two types of information. This normally requires sophisticated and expensive electronics equipment. Moreover, if the source of the video signals is a video disc, this can present timing problems. That is, the stored video signals, which include the conventional horizontal and vertical synchronization signals, may not precisely satisfy the standards from one



display or scan line to another because of, for example, differing speeds of rotation of the video disc.

The present invention is directed to  
5 overcoming the above and other problems of the prior art.

Disclosure of the Invention

In one aspect, the invention includes  
apparatus for marketing items, comprising means  
10 for providing information about the items, means for communicating the information to a user, means for sensing predetermined conditions, means for ordering the items and data processing means for controlling the providing means and the  
15 communicating means to communicate a portion of the information in response to the absence of the predetermined conditions and to communicate an additional portion of the information in response to one of the sensed predetermined conditions and  
20 to communicate all of the information in response to another of the sensed predetermined conditions and to control the ordering of the items.

In prior video display systems, sound  
information accompanying a freeze frame display of  
25 product information is not produced and pricing information accompanying the product information cannot be changed. In addition, orders cannot be entered and anyone can activate the display systems. In the present invention, the  
30 information communicated to a user can be easily updated with the current pricing information and sound can accompany the picture information. Furthermore, purchase orders can be entered by the

user and only those users who have, for example, credit cards which can be sensed or read, can activate the apparatus to communicate all the stored information to the prospective purchaser.

5 In another aspect, the invention includes apparatus for controlling the display of first and second information on a display, comprising means for generating first timing  
10 signals to control the display of the first information on the display, the first timing signals being susceptible to variations in timing, and means for generating second timing signals to control the display of the second information on the display in response to the first timing  
15 signals.

Prior video display systems have the timing relationship of displayed information precisely set by the broadcast standard, but this presents a problem if the signal varies  
20 from scan-line to scan-line. While complicated and expensive equipment can be utilized to overcome this problem, the present invention accepts this variation by employing simple and inexpensive equipment to produce the second timing  
25 signals which are derived from the first timing signals that correspond to the horizontal and vertical synchronization signals.

An embodiment of the invention will now be described by way of example and with reference to the  
30 accompanying drawings.

Brief Description of the Drawings

Fig. 1 is a block diagram of a video display system according to the present invention.

Fig. 2 shows pictorially one type of  
35 video terminal embodying the invention of Fig. 1.

Figs. 3A - 3E are flow charts used to

explain the operation of the terminal.

Fig. 4A and Fig. 4B are timing diagrams used to explain a video switch and character generator of the terminal.

5 Fig. 5 illustrates a block diagram of the video switch and character generator circuit of the terminal.

Fig. 6 is a detailed illustration of a screen location counter circuit used in the  
10 circuit of Fig. 5.

#### Detailed Description

Fig. 1 illustrates an apparatus or system 10 for marketing items and, in particular, a video display terminal 12 that can be used or  
15 operated by a consumer to view, select and order desired items. Video display terminal 12 includes a means 14 for providing information about the items. Specifically, means 14 can be a video disc player 16 which plays a video disc 18 that stores  
20 video information and sound information. The video information stored on video disc 18 has, as will be further described, listings and pictures of a variety of products that might be purchased by a consumer. The sound information stored on  
25 video disc 18, among other things, describes the products that can be purchased.

Video display terminal 12 also has a means 20 for communicating the information stored on the video disc 18. Means 20 includes a display  
30 22, such as a color TV display 24, which receives video information from video disc 18 via a video switch and character generator 26 which is coupled to each over an input line 28 and output line 30.

As will be further described, video switch and character generator 26, in addition to switching the video information from video disc 18 to display 24, generates character data that can be  
5 superimposed on the pictures being shown on display 24.

Means 20 for communicating information to a user of video display terminal 12 also includes a synthetic music generator and audio  
10 amplifier circuit 32 which is coupled to video disc player 16 via lines shown generally at 34. Circuit 32 also has speakers 36. Video disc 18, as previously mentioned, stores sound information describing the products displayed on display 24  
15 and this sound information is coupled over lines 34 to circuit 32 to be heard by the user. As will be further described, circuit 32 can also be controlled to generate synthetic music.

Video display terminal 12 further has a  
20 means 38 for sensing predetermined conditions, including a sonar detector 40 which detects the proximity of a user to the video display terminal 12 and a credit card reader 42 which reads a credit card of a user for detection purposes. In  
25 the absence of detection of a user by sonar detector 40, video display terminal 12 will be in an attract mode in which no sound is produced by circuit 32 and certain attract mode pictures will be shown by display 24. Then, should a user  
30 approach sonar detector 40, video display terminal 12 will be switched into an initial mode in which audio will be heard via circuit 32 giving to the user information about the use of the machine and other matters. Then, should the user be

interested in viewing the products that can be ordered in the manner to be described, the user will insert a credit card in reader 42, which will activate terminal 12 to a play mode so that the information stored on video disc 18 can be conveyed to the user. Credit card reader 42 can be a magnetic stripe reader or an optical character reader to read the credit card number of the user.

A means 44 for ordering a desired product is included in the overall video display terminal 12. The ordering means 44, for example, constitutes a control and address keyboard 46 that can be manipulated by the user. In response to instructions for ordering products, which instructions will appear on display 24, the user can manipulate the keyboard 46 to enter order data such as user name and address, and product identification codes. Terminal 12 will already have the credit card number of the user, which will be acquired via credit card reader 42 as mentioned above. Further, keyboard 46 has controls, as will be further described, that enable the user to call up on display 24 products that are of interest.

Another component of video display terminal 12 is a data processing means 48 for performing various control functions under software control, as will be described. Data processing means 48 can be, for example, a microprocessor-based controller 50 which controls or receives data inputs from video disc player 16 via a bidirectional line 52, video switch and character generator 26 via a line 54, synthetic

music generator and audio amplifier circuit 32 via a line 56, sonar detector 40 via a bidirectional line 58, credit card reader 42 via a line 60, and keyboard 46 via a line 62. As one specific  
5 example, microprocessor system controller 50 has memory (not shown) which stores digital data that are outputted on line 56 to cause circuit 32 to produce synthetic music during various times in the display of products.

10 Video display terminal 12 also has a non-volatile order information memory 62, under control by controller 50 via a line 64, that stores all orders that are placed by consumers using the terminal 12. A telephone modem 66 is  
15 coupled to controller 50 via a bidirectional line 68 and interfaces with a remote central computer system (not shown) via a bidirectional line 70. Thus, for example, each order that is entered by a consumer using keyboard 46, can immediately be  
20 coupled via controller 50 and modem 66 to the remote computer system (not shown) to begin processing the order. Also, to avoid loss of an order, each order can be stored in memory 62 and then, at the end of a given period, all the stored  
25 orders can be fetched from memory 62 by the remote computer system via controller 50 and modem 66 to determine if any have not been processed. Furthermore, as will be further described, the remote computer system can instruct controller 50  
30 via modem 66 to control character generator 26 to generate characters to display, for example, changed or current pricing information. Video display terminal 12 also has a printer 72 that can provide the consumer with a hard copy of any order

that is placed. Printer 72 is coupled to controller 50 over a bidirectional line 74.

In the operation of system 10, generally, the video display terminal 12 is  
5 normally in an "attract" mode, by which potential users will be attracted to the display 24. In this attract mode, microprocessor system controller 50 controls video disc player 16 to play repeatedly, for example, a one-minute video  
10 sector on disc 18 which is displayed on display 24 via video switch and character generator 26. The one-minute video sector can be any visual information that might attract the potential user. During this attract mode, no sound information is  
15 produced by circuit 32.

Then, if a potential user is attracted by the attract mode and comes into proximity with the terminal 12, sonar detector 40 will detect the potential user. Detector 40 then sends a detect  
20 signal over line 58 to controller 50 which responds by resetting video display player 16 to the beginning of the attract mode via line 52 and activating synthetic music generator and audio amplifier circuit 32. Now, an initial mode is  
25 activated in which the attract mode visual information is repeated continually on display 24 and accompanying sound data stored on corresponding tracks of video disc 18 are produced and heard via circuit 32. The sound data can, for  
30 example, be audio that informs the potential user of the ability to see and order various products via terminal 12. If the potential user is interested in "shopping" for products via terminal 12, the user is informed by display 24 to insert a

credit card in credit card reader 42.

If the credit card is inserted in reader 42, controller 50 responds to a credit card detection signal on line 60 by controlling, or  
5 activating video display player 16 to play product information stored on disc 18 at the selection of the user, as will be further described. This product information includes video information showing, for example, pictures of the products  
10 that are produced on display 24 and sound information that, for example, explains the products via circuit 32. In addition, controller 50 will control video switch and character generator 26 to generate textual data that are  
15 overlaid on each picture shown on display 24, such as price. Also, controller 50 will control circuit 32 to generate synthetic music. Details of the manner in which the user controls terminal 12 to sequence through all the product information  
20 stored on disc 18 will be discussed below in connection with the flow charts to be described.

Then, if the user selects a particular product to order, controller 50 controls video disc player 16 to play instruction data that are  
25 produced on display 24. The user then reads this instruction data and inputs, via control and address keyboard 46, order data such as the product identification number, the user's address, the address for delivery of the selected products,  
30 etc. Controller 50 then responds to this order data by transferring it to the remote central computer (not shown) via telephone modem 66 and storing it in memory 62. Controller 50 also gives the user a hard copy of the order and a receipt



via printer 72.

At the end of a given period, for example at the end of each day, the remote central computer (not shown) can fetch all the order data from all the users via modem 66, controller 50 and memory 62. Any orders that have not been processed by the remote central computer (not shown) can then be detected and processed.

Fig. 2 is an artist's conception of the video display terminal 12. Fig. 2 illustrates the TV display 24, the speakers 36 of circuit 32, the sonar detector 40, the credit card reader 42 and the control and address keyboard 46. The remaining components of video display terminal 12 are located within a housing 76.

Figs. 3A - 3E, to which reference now will be made, are flow charts used to explain in more detail the operation of video display terminal 12. Initially, terminal 12 is in the attract mode (block 78). If the sonar detector 40 is activated by a potential user being in proximity of about, for example, two feet of the terminal 12, then the attract mode is reset and audio is started (block 80). This constitutes the initial mode in which more visual and audio information are given to the user to explain the terminal 12 and provide a stronger marketing effort. If a credit card is not inserted in reader 42 (block 82) and if no user is detected by sonar detector 40 or no credit card is inserted in reader 42 after ten loops (block 84), the program returns to the attract mode (block 78). If a credit card is inserted in reader 42, but can't be read (block 86), then a message is displayed on

display 24, such as "Try Again Or Other Card". After five tries of reading a credit card, the message "Sorry" is displayed on display 24 (block 86) and the program returns to the attract mode (block 82, block 84 and block 78).

If the credit card inserted in reader 42 is read (block 82), then a visual and audio introduction to various collections stored on video disc 18 are presented (block 88), which is the start of the play mode. For example, there can be four collections of items such as flowers, luggage, fashions and consumer electronics products. Next, a visual and audio introduction to collection No. 1 is presented (block 90), followed by a video frame of user instructions of how to call up the various items in collection No. 1 plus a display of item No. 1 of collection No. 1 (block 92).

Control and access keyboard 46 has a key A (not shown) representing forward and a key B (not shown) representing back. If the user then wants to view items Nos. 2 - n of collection No. 1, each time the key A is depressed, the next item is called up and displayed on display 24 or if key B is depressed, the item previously displayed is called up (block 94). When item No. 1 is displayed, only key A is active to go forward to the next item (block 96). This process continues until the user has viewed all the items of collection No. 1.

Then, the user can depress key A one more time to call up the introduction to collection No. 2 (block 98), which is automatically followed by an instruction frame and

display of item No. 1 of collection No. 2 (block 100). Then, key A or key B can be depressed to call up individual frame displays of the items of collection No. 2 (block 102 and block 104),

A similar process occurs as described above to call up collection No. 3 and collection No. 4, as indicated by block 106, block 108, block 110, block 112, block 114, block 116, block 118 and block 120.

Then, a mosaic of some of the items of collection No. 1 can be displayed (block 122). If the user then depresses key B (block 124) the program returns to the introduction to the collection No. 1 (block 90). If key B is not

depressed, a mosaic of collection No. 2 is then automatically displayed (block 126) followed by a return to the introduction to collection No. 2 (block 98) if key B is then depressed (block 128).

This process continues for a mosaic No. 3 and a mosaic No. 4, as shown by block 130, block 132, block 134 and block 136. After a mosaic of collection No. 4 is displayed (block 134), an

introduction to an unsolicited product presentation is displayed (block 138), which means

that terminal 12 can call up on display 24 a selected number of products that might be of particular interest to the user. Block 138 is an optional step in the flow charts that could be implemented.

Control and address keyboard 46 has another control key C. If the user views an item or product of any collection No. 1 - No. 4 (block 92, block 100, block 108 and block 116), and the user is interested in a more detailed explanation

- of that item or product, then key C is depressed .  
(block 140 or block 142 or block 144 or block  
146). As a result of depressing key C, a more  
complete video and audio presentation is made of  
5 the product (block 148), followed by a freeze  
frame detail of the product including available  
sizes and colors of the product (block 150), and  
then a freeze frame of the product including  
product price and shipping charges (block 152).  
10 If key B is depressed (block 154), the program  
returns to an introduction to collection No. 1  
(block 90), or if key B is depressed (block 156),  
the program returns to the product presentations  
(block 148) or if key B is depressed (block 158),  
15 the program returns to product details (block  
150).

- After the products are displayed (block  
152), if key B is depressed (block 160), the  
program returns to the product presentations  
20 (block 148). If key A is depressed (block 160),  
the user is given an option to bypass a display of  
an order demonstration (block 162). If key B is  
depressed (block 164) the order demonstration is  
bypassed and an order form appears on display 24  
25 together with a picture of the product being  
ordered in the top right corner of display 24  
(block 166). If key A is depressed (block 164) an  
order entry demonstration is given (block 168)  
followed by a display of the order form (block  
30 166). If there is a time-out, i.e., if key A or  
key B is not depressed, (block 164), the order  
entry demonstration is given (block 168). If the  
order form is displayed (block 166), an order  
demonstration can be selected by depressing key A

(block 170), which returns the program to block 168.

When the order form is displayed (block 166), the user then keys in the order data, being requested using keyboard 46 (block 172), which can include a gift card message and product delivery date (block 174). If an error is made by the user in keying in the order data, then the user can edit the data (block 176 or block 178).

Next, the user's credit card is inserted in reader 42 (block 180), and if the credit card number can be read the order is accepted and a thank you message displayed on display 24 (block 182). If one or another credit card can't be read after five tries (block 184), a message "Sorry" is displayed, together with a message "Thank You For Window Shopping" (block 186). Then, after ordering or trying to order a product, key B can be depressed (block 188) and a return is made (block 190) to the introduction to collection No. 1 (block 90) should the user want to order any other products. After a time-out (block 188), the order is entered and a return is made to the attract mode (block 78).

In connection with the video switch and character generator 26, Fig. 4A illustrates the NTSC standard video signal used in the broadcast industry for TV video displays. The video signal, as shown, has a horizontal blanking interval, a horizontal synchronization portion (H Sync.) and a display portion during which one scan line of a frame of video is displayed. As previously mentioned, the NTSC standard video signal precisely defines all timing relationships by

which video information and textual information are displayed.

The video disc 18 stores video data in accordance with the NTSC standard signal shown in Fig. 4A. One problem, though, is that due to variations in the speed of rotation of the video disc 18 or the precision by which the video data are stored on video disc 18, or other factors, the timing of the NTSC standard signal being read from the video disc 18 may vary from scan line to scan line. While in the broadcast industry, the standards are precise such that the timing must be the same from scan line to scan line, this precision is not necessarily required to display adequately overlaid text on video from scan line to scan line of display 24. Consequently, as indicated by the waveform of Fig. 4B, which is a waveform showing the timing for displaying text produced or generated by the video switch and character generator 26, a display portion always is accurately referenced with respect to the occurrence of H Sync., however that may vary due to any varying scan line-to-scan line timing provided by video disc 18. Particularly, the leading edge of the display portion shown in Fig. 4B is precisely related to the trailing edge of H Sync. interval, whenever the latter occurs.

Fig. 5 is a block diagram of the video switch and character generator 26. The NTSC standard video signal stored on video disc 18 and read by video disc player 16 is inputted over line 28 to a conventional level clamping and synchronization separator 192. Separator 192 separates the video information from the

horizontal and vertical synchronization signals (H sync. and V sync.) and provides these on a line 194, a line 196 and a line 198, respectively. A horizontal and vertical location counter circuit 5 200, which is described in more detail in connection with Fig. 6, responds to the H sync. and V sync. signals on line 196 and line 198, respectively, by outputting address data on a line 202. A conventional screen RAM 204, which 10 contains codes associated with each character to be displayed, responds to the particular data on line 202 by outputting the appropriate character codes on a line 206. A conventional graphics ROM 208, which responds to the codes on line 206 and 3- 15 bit data on line 202 identifying any one of eight lines of the particular character to display, outputs on a line 210 that one line of the character. A video summer 212 then sums the video on line 194 and the character data on line 210 and 20 outputs this summed video onto line 30 for display on display 24.

Fig. 6 is a detailed block diagram of the location counter circuit 200. A 9-bit counter 214 is clocked at a 5MHz rate by the output of a 25 clock generator 216 via a line 218. An H sync. detector 220 detects H sync. on line 196 and produces a load counter signal on a line 222 to preload counter 214 to a particular count with each detection of H sync. Counter 214 then counts 30 up and when a predetermined count is reached, a pulse or logic 1 is produced on a line 226.

A counter 228 is clocked in response to each logic 1 on line 226. Counter 228 has an output on a line 230 that is connected as an input

to a flip-flop 232, whose output is a signal V Blank. A detector 234 detects V sync. on line 198 and outputs a clear pulse on a line 236 to clear counter 228. Counter 228, together with  
5 counter 214, as shown, output onto line 202 the total of 13-bit data indicated in Fig. 5.

In the operation of location counter circuit 200, when H sync. of the waveform shown in Fig. 4A is detected, counter 214 is preloaded to a  
10 particular count. This corresponds to the trailing edge of H sync. shown in Fig. 4A. Then, counter 214 counts from the particular count to a count of 000000000. This corresponds to the start of the display portion for text as shown in Fig.  
15 4B. Then, when counter 214 counts to the above-mentioned predetermined count, the most significant bit of the count goes to logic 1 on line 226. This, as indicated in Fig. 4B, is the end of the display portion. Thus, during this  
20 display portion of Fig. 4B, text can be displayed on display 24. Moreover, the start of the display portion, i.e., when counter 214 counts to 000000000, always tracks the trailing edge of H sync., whenever that occurs.

25 Counter 228 is clocked with each pulse on line 226, which occurs every horizontal scan line. After sixteen such scan lines, counter 230 outputs a pulse on line 230, resulting in flip-flop 232 outputting the signal V Blank. At this  
30 time, the text can begin to be displayed, i.e., at sixteen lines from the top of display 24. At the end of one picture frame, V sync. is detected to clear counter 228 and the process repeats for another frame.



Thus, text produced by generator 26 can be displayed on display 24 over the video stored on disc 18. The timing of this text, as indicated by the signal waveform of Fig. 4B, is always related to the timing of the NTSC signal of Fig. 4A, however the latter may vary. Furthermore, screen RAM 204 can be written by the external system computer (not shown) via modem 66 and microprocessor system controller 50 to store updated data such as new pricing information for a particular item for display on display 24 with the particular item.

A number of alternative embodiments to those already described can be developed within the principles of the present invention. Fig. 2 illustrates one form of terminal 12; however, other versions can include a sit-down cabinet mode, a sit-down booth with one or more terminals 12, a counter-top mode, a cocktail table mode and a wall-installed mode like a walk-up automatic bank teller terminal. Alternatives to the keyboard 46 can include a touch screen mode, a track ball or cursor mode, a joystick and a light pen.

Furthermore, video disc 18 has been described as storing video and audio information about products. However, video disc 18 can also store a number of different video games that can be selected by a user of terminal 12 using keyboard 46. The user would also key in with keyboard 46 the credit card and other appropriate data for charging the user for playing the selected video game and then the disc player 16 can be activated by microprocessor system controller 50 to call up the selected video game.

Also, the audio tracks of disc 18 can be used in place of the audio to dump or write other video games on the disc 18 via the remote system computer (not shown), modem 66 and microprocessor system controller 50.

Furthermore, the audio tracks can be used to store the software of the present invention, which software can then be loaded into microprocessor system controller 50 to perform the functions previously described. Alternatively, this software can be stored in a tape cartridge, which is then inserted into the terminal 12 in the field on installation of the terminal 12, whereby the software will then be loaded into controller 50.

Also, terminal 12 is shown as having one video disc player 16 and one video disc 18 for displaying still frames of items. An alternative can include two video disc players 16 and two video discs 18 in the one terminal 12. One of the video disc players 16 and corresponding disc 18 can be operated in a constant linear velocity mode to display motion sequences on display 24. The other disc player 16 and disc 18 can be operated to display the still frames.

An advantage of using the two disc players 16, which can be of the inexpensive type having long data access times, is that the two in combination can act as one very fast access time player by interleaving the search time of one player with the playing time of the other player. A further advantage is that the playing time of the two in combination is increased. The total purchase price or cost of using the two

inexpensive (e.g. consumer-purchased) players, is considerably less than one "intelligent" industrial video disc player.

5 Naturally one skilled in the art may apply the system to a PAL or SECAM system as the synchronising principles are similar to NTSC but with slightly different frequencies.

10 Published on the same day as this application in the official file thereof are copies of an Appendix A and an Appendix B to this specification which

are source code listings with comments that implement the program shown in the flow charts previously described. Also, the microprocessor system controller 50 can be, for example, a  
15 controller known as a Model 800 Atari home computer system, manufactured by Atari, Inc., Sunnyvale, California, which includes a Model 6502 microprocessor manufactured by Synertek, Inc. The attached source code listings are written in  
20 connection with such a controller.

Other aspects, objects and advantages of the invention can be obtained from a study of the drawings, the disclosure and the appended claims.

Claims

1. Apparatus for marketing items,  
comprising:

- a) means for providing information about  
the items;
- 5       b) means for communicating the  
information to a user;
- c) means for sensing predetermined  
conditions;
- d) means for ordering selectively the  
10    items; and
- e) data processing means for controlling  
said information providing means and said communicating means  
to communicate a portion of the information in  
response to the absence of the predetermined  
15    conditions and to communicate an additional  
portion of the information in response to one of  
the sensed predetermined conditions and to  
communicate all of the information in response to  
another of the sensed predetermined conditions and  
20    to control the ordering of the items.

2. Apparatus, according to claim 1,  
wherein said means for providing information comprises:

- a) a video storage medium having video  
information; and
- 25       b) means for generating character data.

3. Apparatus, according to claim 2,  
wherein said means for communicating comprises a  
video display for displaying the video information  
and the character data superimposed on the video  
30    information.

4. Apparatus, according to claim 1,  
wherein said means for providing information comprises a  
storage medium having video and sound information.

5. Apparatus, according to claim 4,  
wherein said means for communicating comprises:

a) means for displaying the items in  
response to the video information; and

b) means for generating audio in  
response to the sound information.

6. Apparatus, according to claim 5,  
wherein said means for generating audio comprises  
a synthetic music generator.

7. Apparatus, according to any preceding claim  
wherein said means for sensing predetermined  
conditions comprises means for detecting the  
proximity of a user of the apparatus as the one  
sensed condition.

8. Apparatus, according to claim 7,  
wherein said means for detecting comprises a sonar  
detector.

9. Apparatus, according to any preceding claim  
wherein said means for sensing predetermined  
conditions comprises means for reading a user  
identifier as the other sensed condition.

10. Apparatus, according to claim 9,  
wherein said means for reading comprises a credit  
card reader.

11. Apparatus, according to any preceding claim wherein said means for ordering comprises a user input control for inputting item order data to said data processing means.

5 12. Apparatus, according to claim 11, wherein said user input control comprises a keyboard.

10 13. Apparatus, according to claim 11 or 12, wherein said means for ordering further comprises means for storing the item order data.

15 14. Apparatus, according to claim 13, wherein said means for ordering further comprises a modem, coupled to said data processing means and said storing means, for transmitting the item order data stored in said storing means.

15 15. Apparatus, according to any of claims 11 to 14, wherein said means for ordering further comprises means for providing to the user a hard copy of the item order data.

20 16. Apparatus, according to any preceding claim wherein said means for providing information further comprises:

- a) a video game computer system;
- b) means for storing at least one video  
25 game program; and
- c) means for dumping the video game  
program into said video game computer system in  
response to user command.

17. Apparatus, according to claim 16, wherein said means for communicating comprises a video display for displaying a video game in accordance with the video game program.

5 18. A terminal for merchandising items, comprising:

a) means for providing information about the items, including a video disc player having a video disc which stores video and sound data;

10 b) means for communicating the information to a user, including

i) means for displaying the items in response to the video data; and

15 ii) means for generating audio about the items in response to the sound data;

c) means for sensing predetermined conditions, including

i) means for detecting the proximity of a user; and

20 ii) means for reading a user identifier;

d) means for ordering selectively the items; and

25 e) programmed data processing means for controlling said means for providing information and said means for communicating to

i) display a portion of the video data in response to the absence of the sensed predetermined conditions;

30 ii) display the portion of the video data and generate a portion of the audio in response to the detection of the proximity of the user; and

iii) display selectively all the video data and generate selectively all the audio in response to the detection of the proximity of the user and the reading of the user identifier.

5           19. A terminal, according to claim 18, wherein said means for displaying comprises a video display and said means for generating audio comprises a synthetic music generator.

20. A terminal, according to claim 18 or 19, wherein said means for detecting comprises a sonar detector and said means for reading comprises a card reader.

21. A terminal, according to claim 18, 19 or 20, wherein said means for ordering comprises a user controlled data input means for producing item order data.

22. A terminal, according to any of claims 18 to 21, wherein said means for ordering further comprises means for storing the order input data.

20           23. A terminal, according to claim 22, wherein said means for ordering further comprises a modem for transmitting the stored order information to a remote site.

25           24. A terminal, according to any of claims 18 to 23 wherein said means for providing information further comprises means for generating character data and for superimposing the character data on the displayed video data.

30           25. Apparatus for controlling the display of first and second information on a display, comprising:



a) means for generating first timing signals to control the display of the first information on the display, the first timing, signals being susceptible to variations in timing; and

b) means for generating second timing signals to control the display of the second information on the display in response to the first timing signals.

26. Apparatus, according to claim 25, wherein said means for generating the second timing signals comprises.

a) means for generating clock signals; and

b) means for counting the clock signals, said counting means being preset to a count in response to the first timing signals and then enabling the display of the second information for a predetermined number of counts.

27. Apparatus, according to claim 26, wherein said counting means commences enabling the display of the second information a predetermined number of counts after the preset count.

28. A video display system, comprising:

a) a video display;

b) first means for storing and outputting first video information and horizontal synchronization signals, said horizontal synchronization signals being susceptible to variations in timing;

c) means for generating timing signals in response to the horizontal synchronization signals;

d) second means for storing and outputting second video information in response to the timing signals; and

5 e) means for combining said first video information and said second video information, said video display displaying said first video information and said second video information in response to the horizontal synchronization signals.

10 29. A video display system according to claim 27 wherein said first means for storing and outputting further comprises means for outputting vertical synchronization signals, said means for generating timing signals generates a vertical enabling signal in response  
15 to a predetermined number of the horizontal synchronizing signals and said video display is responsive to the vertical enabling information to display the second video information.

20 30. A video display system according to claim 29 wherein said first means for storing and outputting comprises a video storage disc.

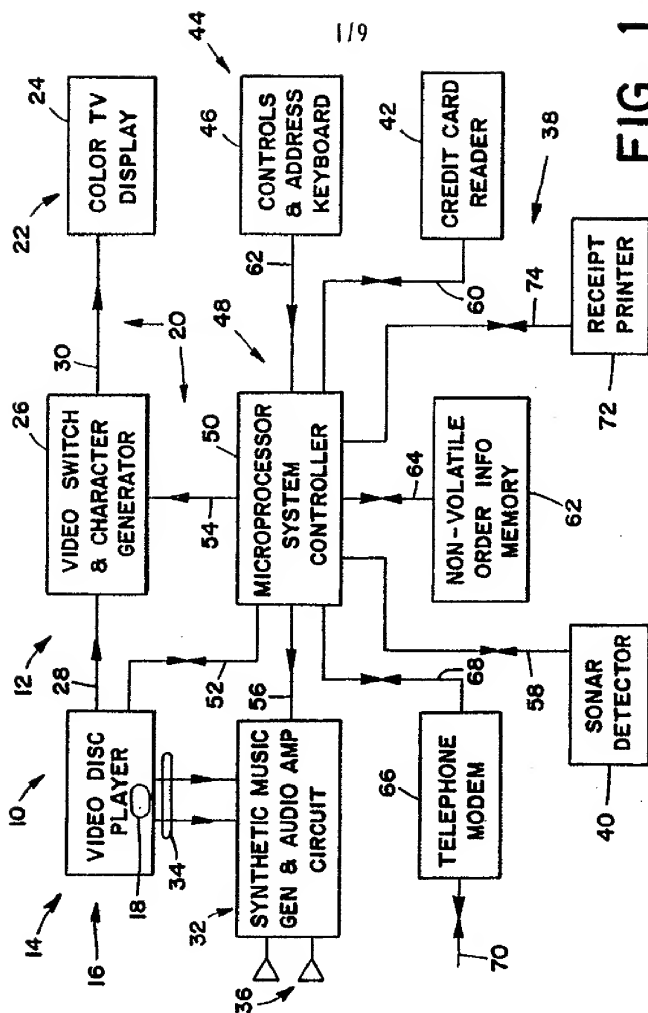
31. A video display according to claim 29 or 30 wherein said second means for storing and outputting comprises a character generator.

25 32. A video display according to any of claims 28 to 31 wherein said means for generating timing signals comprises:

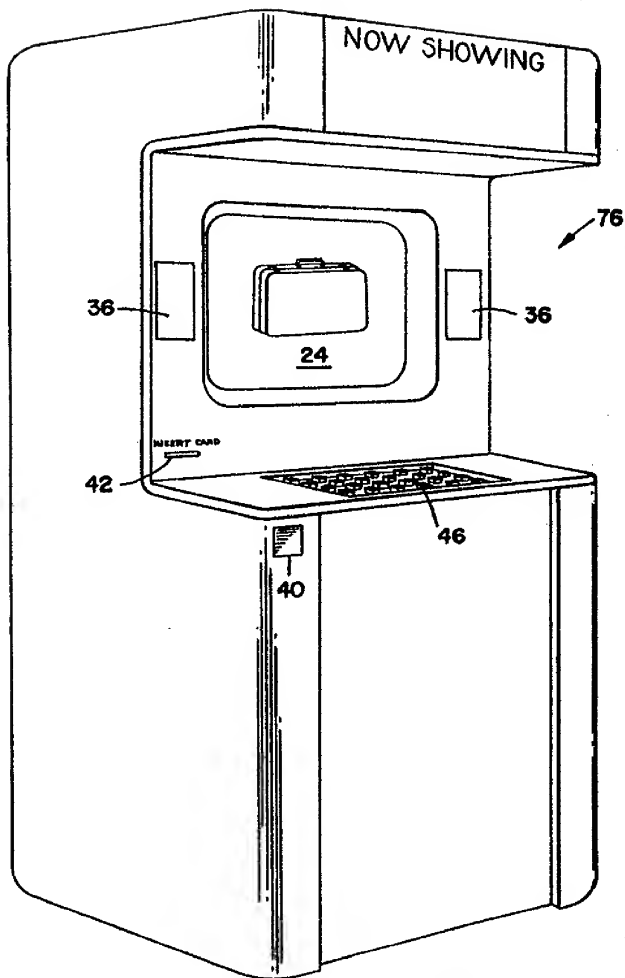
a) means for generating clock signals;  
b) means for counting the clock signals,  
30 said counting means being preset to a count in response to each of the horizontal synchronization signals and then enabling the display of the second video information for a predetermined number of counts.

33. A video display system according to claim 32 wherein said counting means commences enabling the display of the second video information a predetermined number of counts after the preset count.

34. A video display system according to claim 32 or 33 wherein said counting means generates a second clock signal at the predetermined number of counts and said means for generating further comprises second means for counting each second clock signal, said second counting means being cleared in response to each of the vertical synchronization signals.

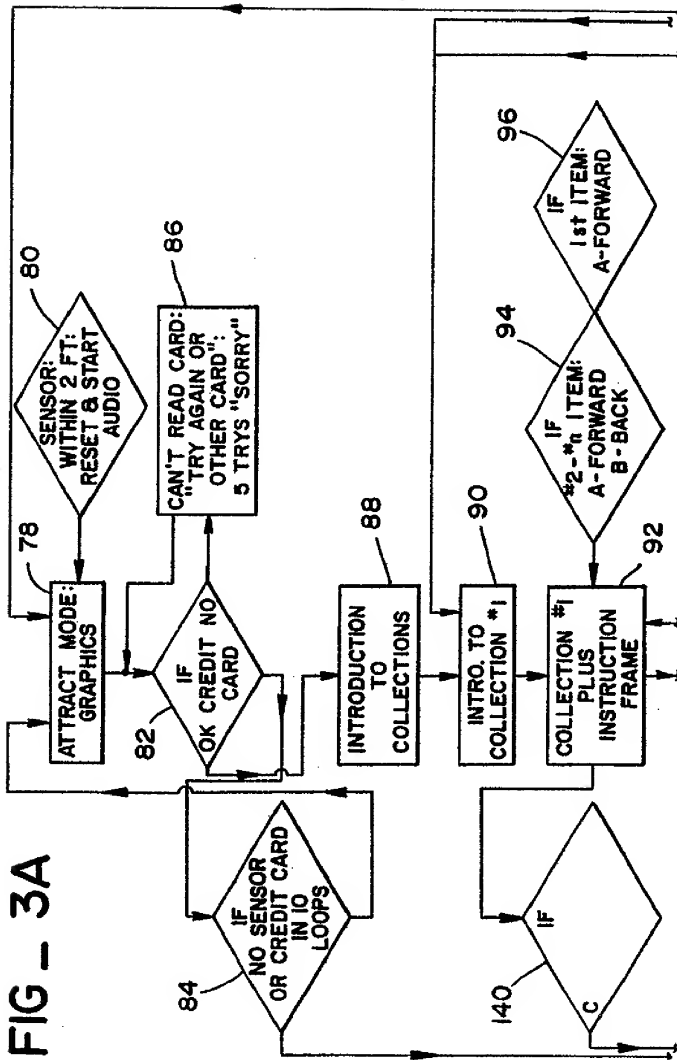


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FIG\_2

**FIG - 3A**



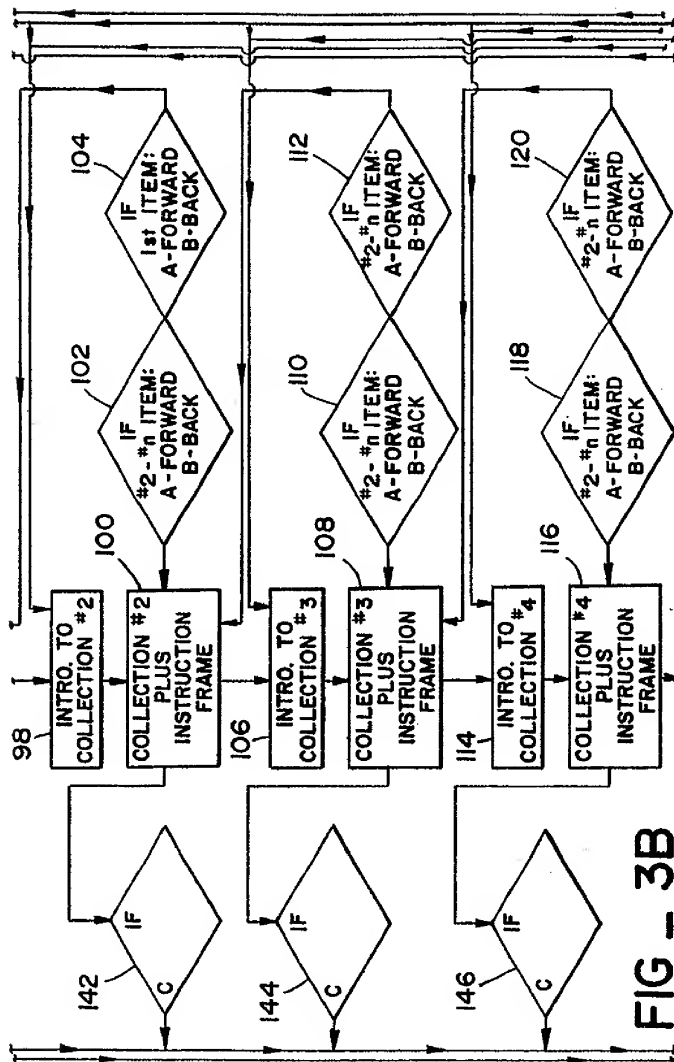
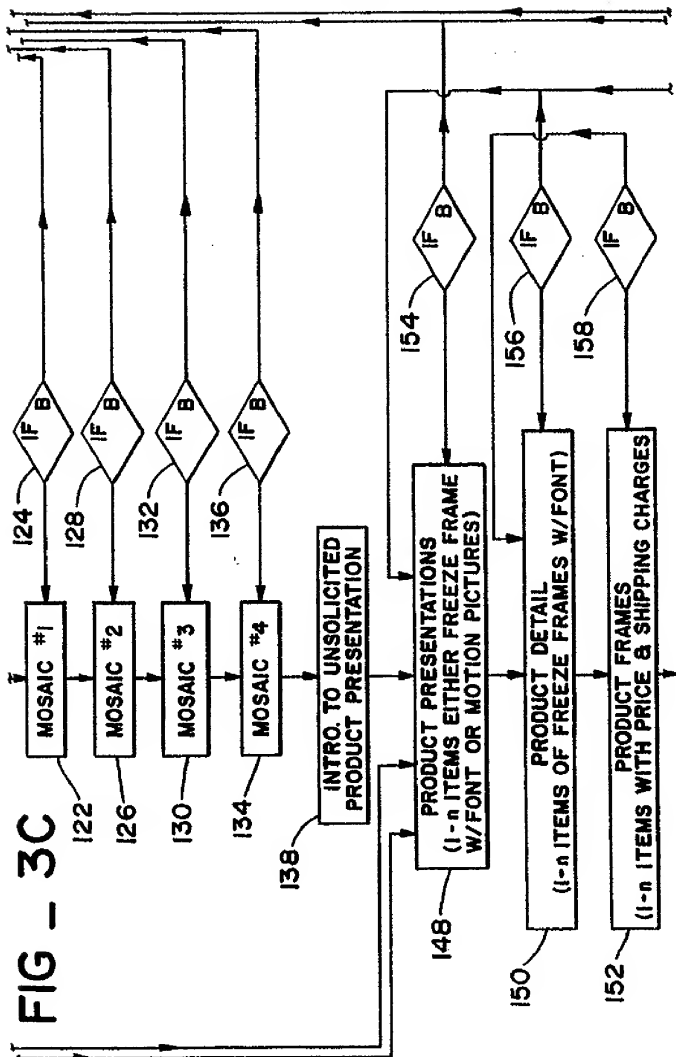


FIG - 3B

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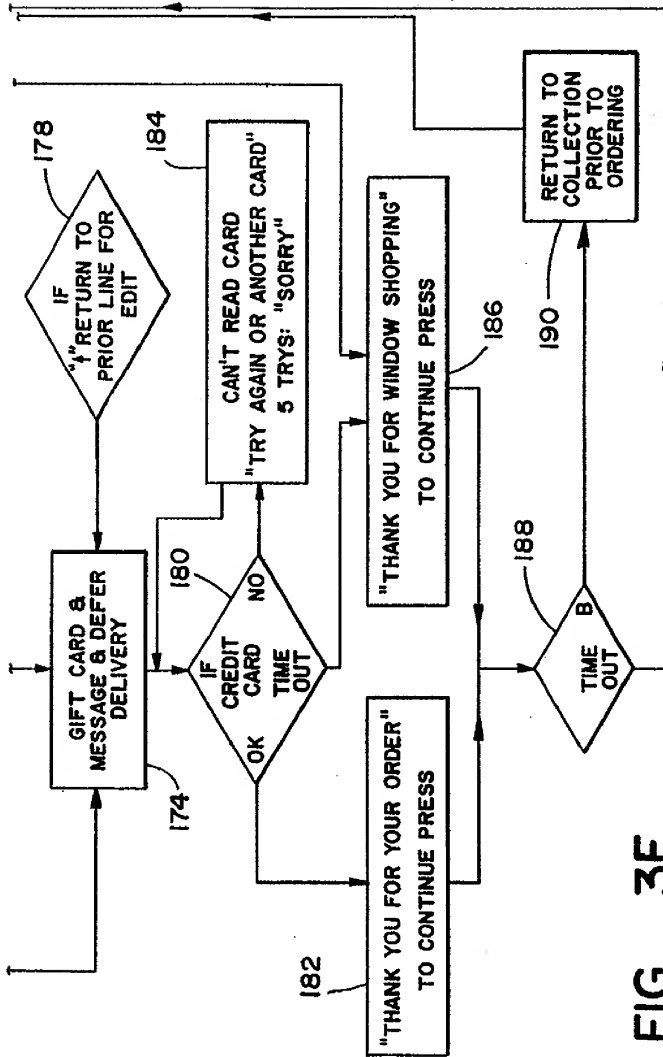
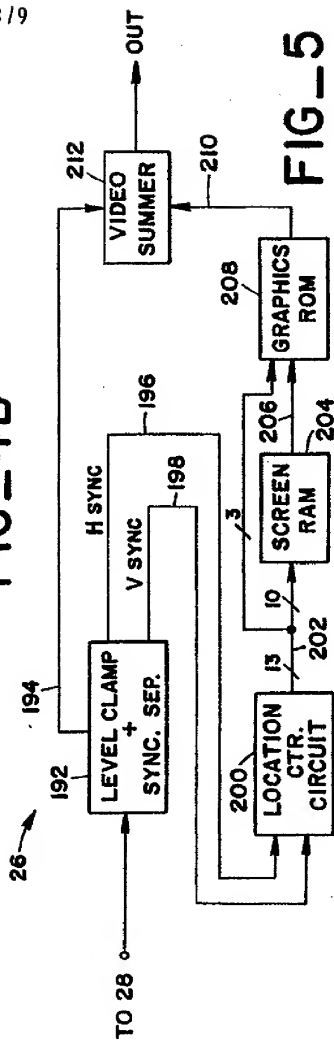
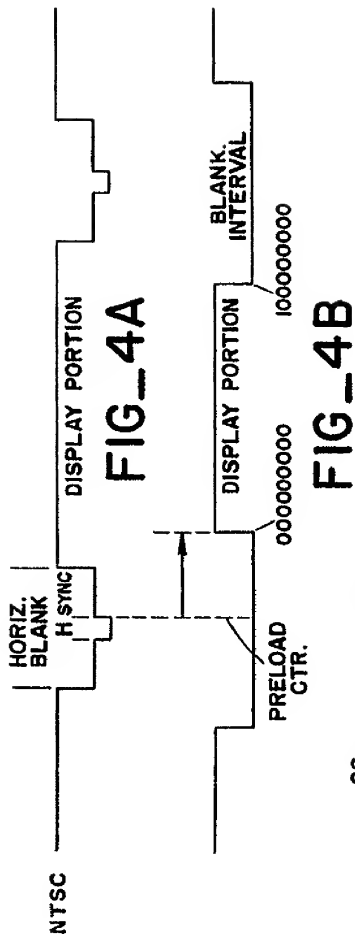
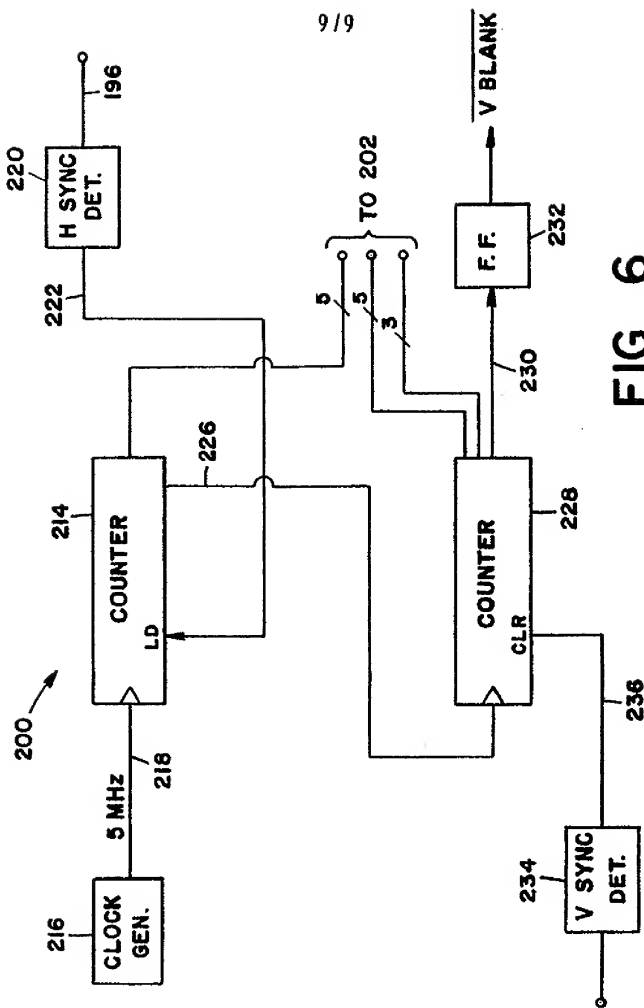


FIG - 3E



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FIG\_6



European Patent  
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# EUROPEAN SEARCH REPORT

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Application number

EP 83 30 6220

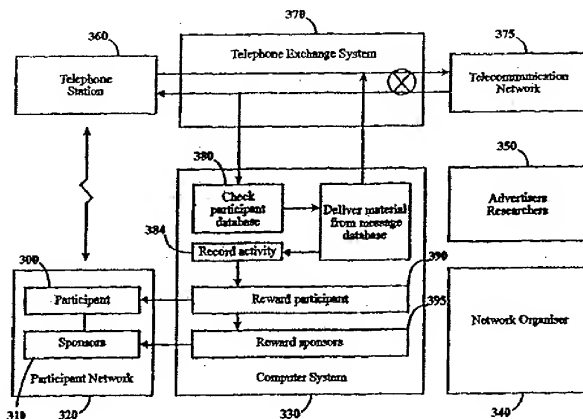
DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 7)
A	US-A-3 861 792 (DONATI)  * Abstract; column 2, lines 10-56; column 4, line 65 - column 5, line 14 *	1, 2, 4, 7	G 06 F 15/24 G 09 F 27/00
A	US-A-3 818 454 (YACCINO) * Column 1, line 58 - column 2, line 34 *	1, 9, 10	
A	US-A-4 071 697 (BUSHNELL) * Column 1, line 59 - column 2, line 8 *	1	
A	US-A-3 906 457 (MATTEDI)		
A	FR-A-2 311 369 (LEPINE)		
			TECHNICAL FIELDS SEARCHED (Int. Cl. 7)
			G 06 F 15/20 G 09 F 27/00
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 20-01-1984	Examiner BARRACO G.S.
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : technological background O : non-written disclosure P : intermediate document & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category			



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(75) Inventors/Applicants (for US only): MCDONALD, Simon, Paul [NZ/NZ]; 3 Burwood Place, Hamilton (NZ). SELMAN, Brian, John [GB/NZ]; 63 Rukuhia Road, Hamilton (NZ).			
(74) Agents: BENNETT, Michael, R. et al.; A.J. Park & Son, Huddart Parker Building, 6th floor, Post Office Square, P.O. Box 949, Wellington 6015 (NZ).			

(54) Title: MULTILEVEL MARKETING SYSTEMS



(57) Abstract

Several multilevel marketing systems for advertising, market research, shopping and similar services are described. Participants interact with a computer system to receive advertising, respond to market surveys, or place purchase orders as the case may be. The participants form a network which is administered by a network organizer through the computer system. Each participant is rewarded according to the activity of others who are sponsored as downline participants in the network. The participants are encouraged to continue their own activity rather than simply recruit and sponsor new participants.

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## MULTILEVEL MARKETING SYSTEMS

### FIELD OF THE INVENTION

- 5 This invention relates to multilevel marketing of goods or services, and in particular but not solely to methods of advertising, conducting market research, shopping, or providing similar services, in which participating recipients, purchasers or other entities form a network and benefit from the activity of others in the network. Systems which implement the invention involve a computer platform to and from  
10 which communication with the participants is made, typically by way of telephone, facsimile, the Internet, electronic mail or postal mail.

### BACKGROUND TO THE INVENTION

- 15 One existing multilevel marketing system is that operated by Amway in the United States and now generally throughout the world. Members of the Amway system are actively involved in marketing a wide range of domestic and commercial products, including foods, cosmetics and appliances of all kinds. They also sell the system itself, and their respective businesses succeed primarily to the extent that new  
20 members can in turn be recruited and motivated to sell products. The system is a legal form of "pyramid" selling in which none of the products move over a counter in a retail store, but are sold by members who make personal contact with their purchasers.
- 25 Each member is a "sponsor" for subsequent members who join the system as part of that sponsor's business and contribute to his or her profits through their own respective businesses in selling goods or recruiting further new members. Each sponsor has an "upline" beginning with the member from whom they received personal sponsorship, and one or more branching "downlines" beginning with those  
30 members whom they in turn have personally sponsored. Crossline from each member are other members having the same personal sponsor. There is no limit to the number or size of a member's downlines and the system is arranged in ever more populated levels of members.



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The upline of each member begins with a link to a first level sponsor, then a second level sponsor who is in turn a first level sponsor of the previous first level sponsor, then a third level sponsor and so on upwards and backwards in time of joining the system, to a small number of initial members. Alternatively, each particular sponsor  
5 may be thought of as having one or more first level sponsored members, who are linked to second level sponsored members which are in turn first level sponsored members with respect to the previous first level members, and so on downwards and forwards in time, to a normally large number of the most recently recruited members. The number of levels are theoretically unlimited but in practice depend on the  
10 accessibility and availability of interested individuals in the population.

Various computer based systems related to advertising have been the subject of earlier patents. Reference is made by way of example to US 4,752,675 which relates to a method of collecting response data from direct mail advertising, and US  
15 4,850,007 which relates to a telephone service in which subscribers may reduce toll costs by listening to or viewing an advertisement when placing a call. Various computer based shopping systems have also been proposed such as that described in US 4,860,123. None of these systems involve a network of participants whose personal activity in receiving advertisements through one medium or another, or  
20 through buying products, is credited to other sponsoring participants in the network, and who in turn may sponsor new participants.

## SUMMARY OF THE INVENTION

25 It is an object of the invention to provide methods and systems for use in multilevel marketing, whereby a network of participants are individually active in receiving or acknowledging advertising material, responding to market surveys, or in purchasing goods or services. The participants are generally consumers and are not normally concerned with distributing the material or selling products themselves.  
30

In broad terms the invention involves providing a computer based marketing system, maintaining a database of participants each of whom is a sponsor for or is sponsored by other participants, and is usually both, interacting with the participants by distributing advertising material, conducting market research, providing a shopping

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service or undertaking similar marketing activities, and rewarding participants according to their personal activity and that of their respective sponsored participants.

5 The invention may be defined by the relationship between a particular new participant and a subsequent new participant who are both active in the network. The former becomes a sponsor for the latter and receives some reward for the latter's specific activity. This same relationship occurs throughout the network between each participant who becomes a sponsor, and each of their first level sponsored participants, or conversely between each sponsored participant and their respective  
10 first level sponsor. The relationships and rewards may be extended to multiple levels of participant activity with respect to any particular sponsor, according to a set of rules which is determined by a network organiser.

15 The methods are implemented in a largely automated fashion on a computer system which is operated by the network organiser. Ongoing communication between the computer and the participants is typically made by way of telephone, facsimile, electronic mail, or postal mail. For example, in one embodiment, participants may call an access telephone number and receive messages from a computer voice platform, while in another embodiment, material may be delivered by computer  
20 controlled facsimile. In a still further embodiment, participants call the computer system to place shopping orders. Several related methods may be implemented on a single computer and offered to participants in the same network.

## BRIEF DESCRIPTION OF THE DRAWINGS

25 Preferred embodiments of the invention will be described with respect to the accompanying schematic drawings, of which:

Figure 1 shows upline and downline portions of a network with respect to a particular participant P1,

30 Figure 2 shows a computer system on which the invention may be implemented,

Figure 3 shows an advertising/market research system as a first embodiment of the invention,

Figure 4 is a flowchart for call processing in the system of Figure 3,

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Figure 5 shows a further advertising/market research system as a second embodiment of the invention,

Figures 6a and 6b are flowcharts indicating message delivery and response processing in the system of Figure 5,

5 Figure 7 shows a shopping system as a third embodiment of the invention,

Figure 8 is a flowchart for call processing in the system of Figure 7, and

Figures 9a, 9b, 9c are flowcharts showing how participant activity may be assessed for a performance interval with corresponding calculation of rewards.

## 10 DESCRIPTION OF THE INVENTION AND PREFERRED EMBODIMENTS

Systems and methods according to the present invention are based on a network of participating entities, typically individuals although possibly companies or other organisations, who receive advertisements, respond to market surveys, purchase  
15 goods or services, or engage in similar activities. A network organiser maintains a database of participants in the network, makes contact with the advertisers, market researchers, suppliers and new participants, and operates a computer system which processes telephone calls from the participants, delivers the advertisements, market surveys, processes responses, passes orders to the suppliers and so on, as the case  
20 may be. Most individuals will have joined the network following the recommendation of an existing participant or "sponsor" to whom they become linked as a sponsored participant. They are then encouraged to participate in one or more activities of the network and to recruit new participants for whom they in turn become a sponsor. The activity of each participant is credited to his, her or its  
25 sponsors at a number of higher levels, usually by way of direct rewards including cash payments, as will be described.

Various embodiments of the invention may be envisaged, including a system in which participants play an active role in contacting the network organiser to receive  
30 marketing material in various forms, or to order a product or service, and a system in which the network organiser automatically distributes advertising or research material to which the participants may or may not respond. A participant in the former system may simply place telephone calls to the computer and listen while an aural advertisement is played back, or may receive a visual advertisement if a video

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- capability is available. The material may require an interactive response to questions in a market survey or simply to ensure that the participant is indeed listening or watching. A participant in the latter system may receive marketing material several times a week by facsimile, electronic mail or postal mail. However, it should be noted
- 5 that the participants themselves are not necessarily involved in distributing the material or products further, and the systems are quite different from Amway and other multilevel marketing arrangements in this regard. Several specific embodiments will be set out in more detail below.
- 10 Figure 1 shows a small portion of an established network from the point of view of a particular participant P1. Linked upline from P1 is a first level sponsor FLS by whom P1 was introduced to the network, a second level sponsor SLS by whom FLS was introduced to the network and of whom P1 will not necessarily know or be aware, and a hypothetical n'th level sponsor NLS. From the FLS point of view, SLS
- 15 will be the first level sponsor and NLS will be the n-1'th level sponsor. Ultimately there is an initial sponsor who might be regarded as a founding member of the network and may have special privileges. Crossline from P1 are two other participants P2 and P3 who form part of a group introduced to the network and sponsored directly by FLS. Linked downline with respect to P1 are four first level
- 20 sponsored participants FLSP1, FLSP2, FLSP3 and FLSP4 who are probably personally known to P1 and who joined the network subsequently to P1. Of these only FLSP1 is indicated as being linked to a second level sponsored participant SLSP, who is first level with respect to FLSP1, an n'th level sponsored participant NLSP, and ultimately one of the latest participants to have joined the network. Participants
- 25 who seek to join the network without a particular sponsor in mind may simply be allocated to sponsorship by an existing participant. Each participant in the network has a single upline but may have many downlines, and it will be appreciated that only a fraction of the numerous possibilities have been indicated in this figure.
- 30 If each participant is offered a sufficient incentive to introduce and sponsor new participants the size of the network grows rapidly, and will become increasingly attractive to advertisers, market researchers and vendors. The most effective incentive is to reward each participant according to the activity of their directly or indirectly sponsored participants. For example, rewards could be distributed

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according to the total number of advertisements received by downline participants, to the length of time spent responding to market research, or to the total value of products purchased by those participants. To provide a degree of fairness and encouragement for subsequent participants, however, it will usually be desirable to

5 limit the maximum number of levels from which any particular sponsor may take a reward for subsequent activity by downline participants. It may alternatively or in addition be desirable to limit the maximum number of participants which may be sponsored at each level. For example, rewards could be limited according to the

10 activity of participants no more than six levels deep from the particular sponsor, and each sponsor could be entitled to introduce a group of no more than six first level sponsored participants. In Figure 1 this would mean that P1 could not take credit for activity by the n'th level sponsored participant NLSP unless n was six or less, and could only introduce two more first level sponsored participants who would become FLSP5 and FLSP6. The values chosen for limiting the depth of sponsorship and the

15 size of groups are somewhat arbitrary, and could be 1, 3, 10, 20 and so on, according to the requirements for successful operation of a particular network, but are preferably in the range 5 to 10.

To ensure that each sponsor continues to take part in network activities, the rewards

20 should also depend on the extent of their individual activity. For example, the reward credited to any sponsor may be made proportional not only to a measure of the downline activity undertaken by sponsored participants, but also proportional to a measure of personal activity undertaken by that sponsor him or herself. Existing participants must then contribute more than simply a source of recruitment of new

25 participants. This in turn ensures that the network continues to be an attractive marketing avenue to advertisers, researchers, vendors and other individuals or organisations which must pay the network organiser to have material, products or services distributed to network participants. The activity of each participant is assessed regularly at the end of consecutive performance intervals which are typically

30 several weeks or a month. The impact of variations in personal activity by a particular sponsor can be averaged over several intervals to encourage behaviour that is consistent with long term participation in the network, and also to smooth fluctuations in what could amount to an appreciable income, due to occasional variations in personal circumstances such as an illness or overseas trip. Offering

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prizes in cash, merchandise or some form of credit is another way to provide an incentive for participants to continue with their individual activity. For example, prizes could be offered randomly each month, or to the most active participant in each week. Ongoing activity by each participant rather than simply ongoing recruitment is to be encouraged.

In general terms to be explained further below, a network organiser typically operates a system according to the invention through a computer which is able to communicate with individual participants over a telecommunication system. The network organiser may provide a telephone access number such as an 0800 or 0900 number by which participants may dial directly into the computer to request advertising material, take part in market surveys, place orders for goods or services, or respond to other informational material which has been despatched to them. Callers respond or provide other input to the computer by punching appropriate keys on a conventional telephone keypad according to a voice menu. Direct input through voice recognition may be possible in some systems. Access can also be provided through a home page on the Internet. New participants may join the network by requesting and returning a form containing various personal details, including product categories in which they may be particularly interested to receive information or participate in research, and an indication of an existing participant to whom they are linked as a first level sponsor. If no sponsor is indicated then a new participant may simply be allocated to an existing participant. Either the participant or the sponsor may be required to pay a joining fee. The participant details are typically entered manually on a database associated with the computer and from there the processes of distributing material, monitoring participant activity and delivering rewards are carried out essentially automatically by various software systems. Advertisers, researchers, vendors and other organisations wishing to contribute material for distribution to, or possible purchase by the participants, will reach separate agreements with the network organiser. The rewards paid to participants and financial returns achieved by the network organiser are drawn from fees paid by the advertisers and vendors.

Figure 2 shows general components of a computer system 20 which may be set up by the network organiser to interact with participants by making and receiving calls through a local telephone exchange 21 and for other related purposes such as record

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keeping, calculation and distribution of rewards, and accounts processing. The increasing speed and memory capacity of personal computing systems now available makes it possible to implement the invention quite simply and cheaply, with provision of an appropriate interface 22 having multiple lines to the exchange. The computer system includes a processor 23 and memory 24, a terminal 25 including video screen and keypad, a printer 26 and hard drive memory 27. Software responsible for processing calls and carrying out functions as mentioned above is held in memory 27, which also stores various databases. There will typically be a database of participant records including whatever personal details are required for network activities, a database of advertising or research material which may be transmitted as messages to participants, and a database in which participant responses are recorded in order to prepare reports, dispatch orders and so on, as will be mentioned further below. The network organiser operates the system through terminal 25, entering new participants on the database with appropriate links to existing sponsor participants, entering new advertising or research material or new products which may be available, carrying out monthly assessments of network activity, and generating postal material for participants and reports for advertisers, researchers, and vendors on printer 26. Various other devices may be provided in the system including an additional terminal, a scanner for input of advertising artwork, a backup processor and memory to handle extra calls or assist during periods when processor 23 may be inoperative. The general makeup and function of computer systems of this kind will be familiar to a skilled reader and need not be described further.

The network organiser is responsible for day to day operation of the computer and maintenance of the software and databases. It communicates with the various advertisers, vendors and researchers who wish to operate through the network and effectively provides a service to these individuals or organisations. It will also normally be involved with promotional and training meetings for new participants in the network and in determining the various kinds and magnitudes of reward which will be passed on to sponsors. It is also responsible for general policies of operation, for developing and enforcing rules of membership and termination for the participants, and may play some role in controlling the general nature of material or products which are distributed by the advertisers and vendors. For example, there may be minimum age or other restrictions on participants, and limitations on

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offensive or otherwise undesirable advertising material which might be supplied for distribution. Further, there will normally be strict rules on the manner of recruitment of new participants and on any private agreements between participants. The network will also not necessarily be limited to participants having residence in a single country. A sponsor may well seek to introduce friends or relatives from foreign countries and the network organiser will be entitled to make and vary membership rules regarding participants in particular countries.

Termination of membership and participation in the network may be voluntary or involuntary and requires special provisions in the rules. Participants may leave the network voluntarily at any time with appropriate advance notice to the network organiser, or may simply allow their membership to lapse in cases where a regular renewal fee must be paid. Membership may also be revoked by the network organiser for a sufficiently serious breach of the rules by a particular participant. Termination will usually leave an inactive "hole" in the network which may be accommodated or eliminated in various ways. In networks where there is no limit on the number of levels from which a sponsor may take rewards for downline activity, the existence of a hole will not be of great concern to the sponsor and no rearrangement of the network will be necessary. In networks where the number sponsored levels is limited but the number of sponsored participants in a group at any level is unlimited, it will be possible to elevate every level in the group of downlines which begin with the missing participant. For example in Figure 1, a hole left by termination of the membership of P1 may be eliminated by elevating each of FLSP1, FLSP2, FLSP3 and FLSP4 from second to first level sponsored participants linked directly to FLS. SLSP remains first level with respect to FLSP1 but moves from third to second level with respect to FLS. A termination of membership by P2 who has no downline participants is readily accommodated by FLS simply recruiting a new first level participant under the usual rules.

However, in networks where the number of levels and the number of participants in each level from which a sponsor derives a reward for downline activity is limited, this being the fairer system as mentioned above, rearrangements of this kind may or may not be permitted. If they are permitted then some sponsors may seek to profit by encouraging some of their downline sponsored participants to leave the network, and



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thereby achieve an effectively expanded source of rewards. If they are not, then a sponsor may find the benefit of his or her position in the network being unavoidably eroded by terminations which take place through no fault of his or her own. Special rules are needed to ensure that the rewards of any sponsor are not unduly depleted or amplified by terminations under these circumstances. For example, the elevation of first level sponsored participants FLSP1 to FLSP4 following termination by P1 could become sequential, with FLSP1 taking the place of P1 in priority over the others, and with similar rearrangements taking place downline of FLSP1 where required. In general however, it is impossible to ensure that every sponsor is treated equally following a termination and the network organiser is responsible for the policies which may be adopted in this aspect of network operation.

Three preferred embodiments of the invention will now be described, relating to an advertising/market research system in which network participants make calls to a telephone access number and receive audible advertisements or participate in surveys, a system in which marketing material of either kind is automatically distributed to participants by facsimile and to which they may or may not respond, and a shopping system in which participants place purchase orders using a telephone access number. Each system is best implemented using a computer having a connection to a telecommunication network over which automated telephone, facsimile, or Internet related communications and interactions with participants may be carried out. Each system will also usually employ common general methods for assessing the activity of participants over the latest performance interval and for determining the rewards which will be delivered to sponsors, although in practice the systems will differ in detail. All three systems could be offered simultaneously from the same computer to a common network of participants or to partially overlapping networks of participants.

Figure 3 is a highly schematic diagram showing principal entities involved with the first of these preferred embodiments and their general relationship to one another. The embodiment is method of advertising and/or conducting market research presented in terms of particular participant 300 who forms part of a large network 320 of the kind described in relation to Figure 1, and has an upline link to one or more sponsors 310 who take some reward for that individual's activity. The method is

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implemented on a computer system 330 of the kind described in relation to Figure 2, including hardware, software and database information, operated by a network organiser 340. Advertisers or researchers 350 supply the network organiser with audible and possibly visual marketing material which is placed on the computer system in an appropriate message database for delivery to participants in the network. The network organiser charges a fee to each advertiser/researcher, typically according to the volume of material and the number of individuals who actively receive it, although various charging schemes maybe arranged in practice. Participant 300 by way of example, places a telephone call to the computer system using one of several access numbers and a home telephone or computer terminal 360. They reach a voice platform to listen and perhaps also view selected advertisements for a period of several minutes, or work through a session of automated survey questions, and repeat this activity several times a month. The calls are routed through a local exchange 370 which is part of a larger telecommunication system 375 and may be placed nationally or even internationally in a widely spread network of participants. On receiving a call the computer system checks 380 a database of existing participants and delivers 382 appropriate material from the message database as will be described further below. The individual's activity is recorded 384 in the participant database and at the end of an assessment interval the system determines and distributes rewards 390 and 395 for the participant and sponsors according to the network rules.

Figure 4 is a flowchart setting out steps taken by the computer system in Figure 3 when receiving calls from participants and delivering messages by way of advertising or market research. A call is received 400 on one of several telephone lines and possible access numbers from the local exchange. The caller is asked by a voice platform on the system to enter identification such as a name or membership number using the telephone keypad, and their status as a member of the network is checked 410. A password, PIN or other personal form of identification is then requested and this also is checked 420 before access is permitted and recorded. Voice recognition may alternatively be possible at this stage. Once their status is confirmed the caller is offered a menu of options 425 including the usual activities of receiving advertising messages 430 or responding to a market survey 440, for which rewards are given. Other possible options include requests for messages on topics which are selected by the caller and which may or may not generate rewards, requests for information 450

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concerning the caller themselves or about the network in general, and simply terminating the call 460 with an appropriate message. When requesting advertising messages 430 the caller will be usually be advised regarding details such as a maximum number of messages which may be delivered and credited to them during  
5 that call or day. The system then proceeds to deliver a message 432, record the delivery 434, and offer an option 436 to continue or terminate the call at that point. For involvement with a market survey session 440, a number of messages prescribed by a researcher are played 442, these being typically questions to which the caller must respond 444. Survey sessions will be selected by the system according to  
10 personal details which have been provided by the caller. Once a survey has been completed 446, the activity is recorded 448 and the caller is returned to the main menu 425. When providing information for the caller 450, a submenu is once again offered 452, advice is given 454, perhaps relating to the caller's group of sponsored participants for example, and the call is returned to the main menu.

15 Figure 5 is a highly schematic diagram showing the main entities involved with the second preferred embodiment and their general relationship to each other. This embodiment is also a method of marketing best presented in terms of a particular participant 500 who forms part of a large network 520 of the kind which has already  
20 been described and has upline links to one or more sponsors 510 who receive rewards for that individual's activity. The method is implemented on a computer system 530 of a kind which has also been described, including hardware, software and databases, operated by a network organiser 540. Advertisers and market researchers 550 supply the network organiser with advertising and survey material of a generally textual or  
25 graphical nature for delivery to participants in the network. The network organiser charges a fee to the advertisers/researchers according for example, to the volume of material which is delivered to participants. On joining the network each participant is asked to provide information about themselves as to the kind of advertising material they wish to receive or research in which they wish to participate. Appropriate  
30 background criteria can then be determined and stored in the participant database. A facsimile number or email address for receipt of material is also provided by the participant. Selection and delivery of messages is then carried out automatically by the computer system on a daily or perhaps hourly basis as described below. In this example, participant 500 is selected 580, usually along with many others, for delivery

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of a particular advertising or research message according to the stored criteria. The message is delivered 582 through a telephone exchange 570 to the participant's facsimile machine or computer terminal 560 and the delivery is recorded 584. Each participant may respond to the computer system, typically by telephone as will be described below, and return a specific item of information from the message for verification. Responses may also be made by email or post for example, but these must be manually processed by the network organiser. The computer system checks 586 the participant database and records 588 each response. A summary of the individual's activity in receiving and responding is ultimately recorded in the participant database and at the end of an assessment interval the participant and sponsors rewards are calculated 590 and 595 for distribution in an appropriate form.

Figures 6a and 6b are flowcharts setting out steps taken by the computer system in Figure 5 when delivering messages to participants and receiving corresponding responses. In Figure 6a a new advertising or research message may just have been added to the system by the network organiser. A research message may include several specific questions. This message is selected 600 and categorised for delivery to participants according to their background criteria. A response code is added 610 to the message for use by the responding participants. The system then begins working 620 through the participant database and selecting appropriate individuals to whom the message will be transmitted. For each such individual the message is transmitted 624 typically by facsimile, but may alternatively be despatched by email or even printed and delivered by ordinary postal mail for example. The transmission is recorded 626 and the system continues until the entire database has been scanned 628 and there are no further participants for whom the message is appropriate. Eventually the process terminates 630 and may or may not be repeated for that particular message at a later date. In Figure 6b the computer system is receiving a call from a participant in response to delivery of the message. The call is received 650 on one of the available telephone lines in a similar manner to the process in Figure 4. Once again membership is checked 655 and a confidential form of identification is requested 660 for confirmation. A menu of options is then offered 665 to the caller including the usual activity of responding with verification that the message has been received 670, provision or updating of information 680, or

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- termination of the call 690. When proceeding to verify a message 670, the caller is asked to input 672 the response code mentioned above and the response is recorded 674, before the caller is returned to the main menu. Providing information for the caller 680 is carried out by way of a further menu 682 in which the system may allow
- 5 the possibility of updating those criteria on which the messages are selected for delivery. For example, the caller may now wish to receive or exclude messages relating to particular categories of goods or services. The requested or updated information is advised to the caller before return 684 to the main menu.
- 10 Figure 7 is a further highly schematic diagram showing the main entities involved with the third preferred embodiment of the invention. The embodiment is a method of shopping presented again in terms of a particular participant 700 who forms part of a large network of participants 720 as described in relation to Figure 1, and has one or more sponsors 710 in the network who receive rewards for their sponsored
- 15 participant's activity. The method is implemented on a computer system 730 such as shown in Figure 2 including hardware, software and database arrangements operated by a network organiser 740. Suppliers 750 who may be advertisers in one of the previous embodiments, pay a fee and provide the network organiser with information relating to various goods or services which may be ordered by the participants
- 20 through the computer system. The network organiser regularly distributes a catalogue to the participants containing this information which may include photographs, technical details, prices, ordering codes and so on, as would be found in a mail order brochure. Participant 700 who receives the catalogue may then place a telephone call to the computer system through an access number, and make an order for purchase
- 25 of one or more products using a home telephone or computer terminal 760 for example. Calls reach the computer system through a local telephone exchange 770, perhaps coming from elsewhere through a national telecommunication system or even internationally if the network is sufficiently widely spread. The participant details are checked 780 against the database information before the activity is recorded 782,
- 30 as will be described below, and an order is transmitted 784 to the appropriate supplier. The supplier who is not part of the shopping system 730 checks the order in turn and despatches 786 the required goods or services to the participant. At the end of an assessment interval, typically a month, the computer system calculates

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appropriate rewards related to the participant's purchasing activity and these are distributed 790 and 795 to the participant and his or her sponsors as appropriate.

5 Figure 8 is a flowchart setting out steps taken by the computer system in Figure 7 when receiving calls from participants and taking their orders for products to be delivered by the suppliers. A call is received 800 on any one of the several phone lines using a telephone access number at the local exchange and the computer system responds in the same manner to that described in the previous embodiments. The caller is asked by the voice platform to provide 810 their membership number and this is checked 820 against a password or PIN. Voice recognition may be possible 10 at this stage as an alternative. The caller is then offered a main menu 825 which will include options to place an order for goods or services 830, cancel an order 840, select a method of payment 850, select a method of delivery 860, or simply terminate the call 870. Other options such as a request for information may also be offered as 15 explained in previous embodiments. An order is placed 830 by entering a product code 832 from the catalogue distributed by the network organiser, which is confirmed 834 by the computer system as to availability and price. An order number is then issued 836 to the caller for future reference in case of any query or need to cancel which may arise. The participant activity is recorded 838 for determination of 20 rewards for the current performance interval. An option to select methods of payment and delivery may then be offered from the main menu as variations on default arrangements which would otherwise be employed. These variations would normally be explained in the catalogue or may be arranged separately as standard for a given participant. The option to cancel 840 requires a caller to input the related order 25 number 842, and this is checked before the cancellation is confirmed 844. The previously recorded participant activity must be deleted 846. The choices of payment 850 and delivery 860 are offered in further menus 852 and 862. For example, the particular purchase may be debited immediately to a credit card, or required later with payment by cheque when the goods are received. The goods may be delivered by 30 post or courier, or perhaps received by the caller on a preferred day in the case of a service. Some details are required as input 854 and 864 in most cases. Orders are transmitted to the suppliers in batches at the end of each day by electronic data interchange, facsimile, post or otherwise as appropriate for each supplier.

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Figures 9a, 9b and 9c are flowcharts of general relevance to each of the three preferred embodiments, indicating preferred methods of crediting participant activity to the participants themselves and to their sponsors, and ultimately to the calculation of rewards. The activity may be measured in various ways such as minutes of time  
5 spent listening or responding to advertising or research material in the first embodiment, number of advertisements or other messages delivered which received a response in the second embodiment, or value of products ordered in the third embodiment. In each case the activity is monitored and recorded by the computer system and used to calculate rewards according to the network rules. In Figure 9a,  
10 an individual participant's activity is determined for the latest performance interval which is typically a month. The calculation is initiated 900 by the network organiser and every individual in the participant database is 905 consecutively selected for consideration. The individual's total activity for the interval is calculated 910, such as total listening time. A rolling average including previous intervals is usually  
15 calculated 915, to smooth fluctuations in activity due to personal circumstances and encourage continuous activity. Activity over the current and previous three months might be averaged as listening time per month for example. The average is stored 920 as the credit due to the individual for their personal performance. Once the entire database has been scanned 925 the information may be provided 928 for the  
20 participants as part of a mailed report or for access on request to the computer system.

In Figure 9b each participant's activity is assessed for the credit which is due to the upline sponsors. The calculation is initiated 930 either following or in conjunction with the calculation of Figure 9a. Each individual in the database is successively  
25 selected 935 for consideration, and his or her contribution which will be credited to the performance of respective sponsors is determined 940. The network rules will usually specify a maximum number  $n_{max}$  of sponsors linked to the participant at higher levels in the network to which credit will be given, as discussed in relation to Figure 1. A counter  $n$  is initially set to zero and incremented as ever higher sponsors  
30 are considered until this limit is reached typically at  $n_{max}=6$ . Every participant in the network will normally be linked to first, second and higher level sponsors except those who are considered as founding members or are within a few levels of sponsorship of a founding member. The existence of a next higher level sponsor of the participant currently under consideration 935 is repetitively determined 945 and

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the individual identified 950. The credit which they are due as sponsor of the particular participant is stored 955. This loop is repeated 960 until nmax has been reached. The database is scanned until the sponsors of every participant have been credited in this fashion 965. Each participant is advised 970 of the credit which they have received from the activity of their sponsored participants either automatically or on request.

In Figure 9c, rewards are finally determined for each participant after the current performance interval. This process is initiated 980 following those of Figures 9a and 9b. Again the database is scanned 982 and every participant is considered. Credit for their personal activity is determined 984 and for that of their downline sponsored participants 986. A calculation 988 combining these credits may be carried out in various ways, such as by simply adding the value of products purchased by all the relevant participants, and perhaps weighting the personal activity more heavily than that of the sponsored participants. In general, although not necessarily, the computer system will not acknowledge credit to a participant from sponsored participants unless there has also been some personal activity during the latest performance interval or rolling averaged interval. This ensures that individual participants remain substantially involved in network activities rather than becoming overly dependent on the performance of their sponsored participants, as explained above. Ultimately a reward is calculated for the particular participant, typically in cash. An example calculation is given below for a marketing system according to the first embodiment by way of clarification. Once the entire participant database has been scanned 990 and a calculation made for each participant, the individual rewards are distributed 995 according to the network rules. Rewards calculated as cash amounts are usually paid directly into a bank account designated by the participant on joining the network, or may be realised for example, as a discount on products purchased in a shopping system of the kind described in the third embodiment above.

Reward calculations for a possible advertising system set up according to the first embodiment will be given by way of example. In this system participants can earn up to three cents for each minute of advertising or survey message time to which they and their sponsored participants listen during a calendar month. The potential reward for each participant is calculated by simply adding the individual times to determine



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a total listening time which will be credited to the participant, and multiplying this total by three cents. A percentage of the potential reward is then paid to the participant according to their respective "performance score" which is in turn determined by their level of personal activity. The following table indicates firstly the maximum numbers of sponsored participants linked at each level downline from a given participant which may form a group from which the participant may receive credit. This system assumes a maximum of six sponsored participants linked per level for up to six levels which are the preferred limits mentioned above.

Level	Members Per Level	Total Members
1	6	6
2	36	42
3	216	258
4	1,296	1,554
5	7,776	9,330
6	46,656	55,986

Performance scores are based on the number of listening sessions completed by the participant during the month, each comprising a predetermined sequence of advertising or survey messages up to about 10 minutes in duration. The sequence is usually tailored for the particular participant based on information which they provide and update. Advertising and market research is thereby targeted at interested participants. An example of the relationship between number of sessions and the performance score is given in the following table.

Completed Sessions	Performance Score
8	100%
7	85%
6	60%
0-5	0%

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5 A performance score for the current month is determined from a rolling average of scores for a predetermined number of previous months. An example of the averaging process using a four month cycle is given in the next following table, where a typical participants' progress from their first month of activity after joining the network has been indicated. The percentage of the potential reward paid for the first month is determined by that month's performance score itself, while the percentage for the second month is an average of the first and second months and so on, with the current sixth month percentage being determined as average from the third, fourth, fifth and 10 sixth months.

15

20

Month	Completed Sessions	Performance Score	Percentage Total Paid
1	6	60%	60%
2	8	100%	80%
3	8	100%	87%
4	2	0%	65%
5	7	85%	71%
6	7	85%	68%

25

An example reward calculation is given in the final following table. The total listening time for the participant and his downline sponsored participants in the network during the current month is 2557 minutes. Given a performance score of 79.7% for the current month a reward of \$61.14 is consequently calculated and paid to the participant.

30

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Total listening time of Group in minutes	2,557
Payment per minute	3 cents
Total potential reward	\$76.71
Percentage of total paid	79.70%
Actual Reward	\$61.14

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Advertising, research and shopping systems according to the present invention become increasingly attractive to both vendors of goods and services, and to participants, as the size of the network grows. The material is targeted to a growing number of interested recipients who themselves benefit through ease of access to product information, and from individual cash rewards based on their own activity. Various embodiments of the invention have been described and these may be combined in whole or in part with each other, or implemented separately. The spirit and scope of the invention should be considered as limited only by the following claims.

## CLAIMS

1. A method of carrying out marketing activities comprising: providing a  
5 computer based communication and database system; maintaining a database of  
participants on the system each being a sponsor for and/or sponsored by other  
participants; interacting with the participants through the system by distributing  
advertising material, conducting market research, providing a shopping service or like  
activities; and rewarding participants according to their individual interactions with  
10 the system and/or those of their respective sponsored participants.
2. A method of advertising wherein participating recipients form a network and  
become sponsors for other participants who join the network, comprising:  
(a) entering a participant on a database of recipients in the network,  
15 (b) providing access for the participant to receive advertisements from a computer  
delivery system,  
(c) recording a plurality of accesses by the participant to the delivery system,  
(d) delivering one or more advertisements to the participant during at least some of  
the accesses recorded in (c),  
20 (e) entering a further participant on the database,  
(f) linking the participant in (a) as a first level sponsor to the participant in (e),  
(g) repeating (b), (c), (d) for the participant in (e), and  
(h) rewarding the first level sponsor in (f) in relation to the advertisements which  
are delivered to the participant in (e).  
25
3. A method according to claim 2 further comprising:  
(e) entering a plurality of further individuals on the database,  
(f) linking the individual in (a) as a first level sponsor to each individual in (e),  
(g) repeating (b), (c), (d) for the plurality of individuals in (e), and  
30 (h) rewarding the first level sponsor in (f) in relation to the advertisements which  
are delivered to each of the individuals in (e).
4. A method according to claim 3 further comprising:

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- (h) rewarding the first level sponsor in (f) only in relation to the advertisements which are delivered to a predetermined number of the individuals in (e).
- 5      5. A method according to claim 2 further comprising:
- (f) linking each n'th level sponsor linked to the individual in (a) as an n+1'th level sponsor to the individual in (e), and
  - (h) rewarding each sponsor in (f) linked to the individual in (e) in relation to the advertisements which are delivered to the individual in (e).
- 10      6. A method according to claim 5 further comprising:
- (h) rewarding only those sponsors in (f) which are linked to the individual in (e) up to a predetermined level, in relation to the advertisements which are delivered to the individual in (e).
- 15
7. A method of conducting market research wherein participants form a network and become sponsors for other participants who join the network, comprising:
- (a) entering a new participant on a database of participants in a computer system,
  - (b) providing access for the participant to receive and respond to messages from the
  - 20      computer system during research sessions,
  - (c) recording a plurality of accesses by the participant and corresponding research sessions with the computer system,
  - (d) delivering one or more messages to the participant during at least some of the sessions recorded in (c),
  - 25      (e) entering a further new participant on the database,
  - (f) linking the participant in (a) as a first level sponsor to the participant in (c),
  - (g) repeating (b), (c), (d) for the participant in (e), and
  - (h) rewarding the first level sponsor in (f) in relation to the sessions which are recorded for the participant in (e).
- 30
8. A method of distributing marketing material wherein participating recipients form a network and become sponsors for other participants who join the network, comprising:
- (a) entering a participant on a database of recipients in the network,

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- (b) determining criteria by which messages may be selected for delivery to the participant,
  - (c) delivering a plurality of selected messages to the participant,
  - (d) recording responses by the participant to messages which are delivered in (c),
  - 5 (e) entering a further participant on the database,
  - (f) linking the participant in (a) as a first level sponsor to the individual in (e),
  - (g) repeating (b), (c), (d) for the participant in (e), and
  - (h) rewarding the first level sponsor in (f) in relation to the messages which are delivered to, and the responses which are made by, the participant in (e).
- 10
9. A method according to claim 8 further comprising:
- (c) delivering the material by telephone, facsimile, electronic mail, or postal mail.
10. A method according to claim 8 further comprising:
- 15 (d) receiving responses made by the participant over a telecommunication system.
11. A method according to claim 8 further comprising:
- (i) charging marketers according to the quantity of advertising or market research material which is delivered to participants in the network.
- 20
12. A method of providing a shopping service, wherein individual participants form a network and become sponsors for others who join the network, comprising:
- (a) entering a new individual on a database of participants in the network,
  - (b) providing access for the participants to place shopping orders with an ordering
  - 25 system which operates over a telecommunication system,
  - (c) recording one or more orders placed by the individual,
  - (d) arranging delivery of the orders placed in (c),
  - (e) entering a further individual on the database,
  - (f) linking the individual in (a) as a sponsor of the individual in (e),
  - 30 (g) repeating (b), (c), (d) for the individual in (e), and
  - (h) rewarding the individual in (a) according to the orders which are placed by the individual in (e).
13. A method according to claim 12 further comprising:

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- (i) linking the participant in (a) as sponsor of up to a maximum number of further participants which join the network, and
- (j) rewarding the participant in (a) according to the orders which are placed by each sponsored participant in (i).

5

14. A method according to claim 12 further comprising:
- (k) awarding prizes to participants in the network depending on their respective number of orders placed.

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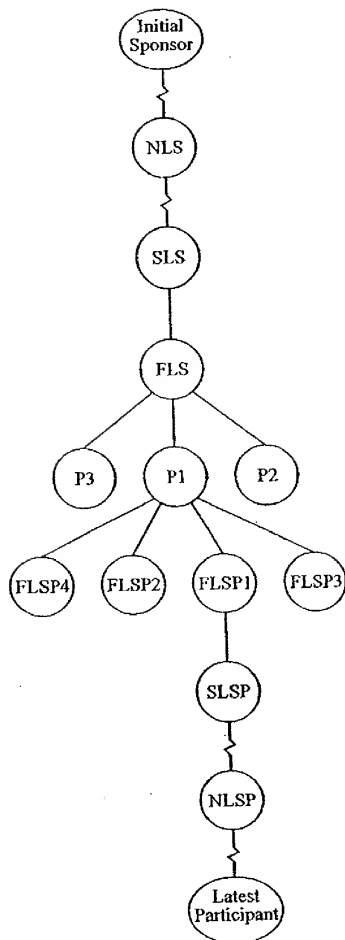


Figure 1



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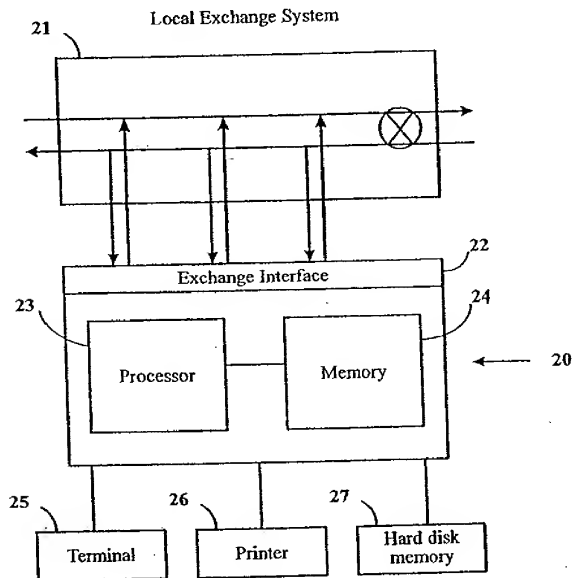


Figure 2

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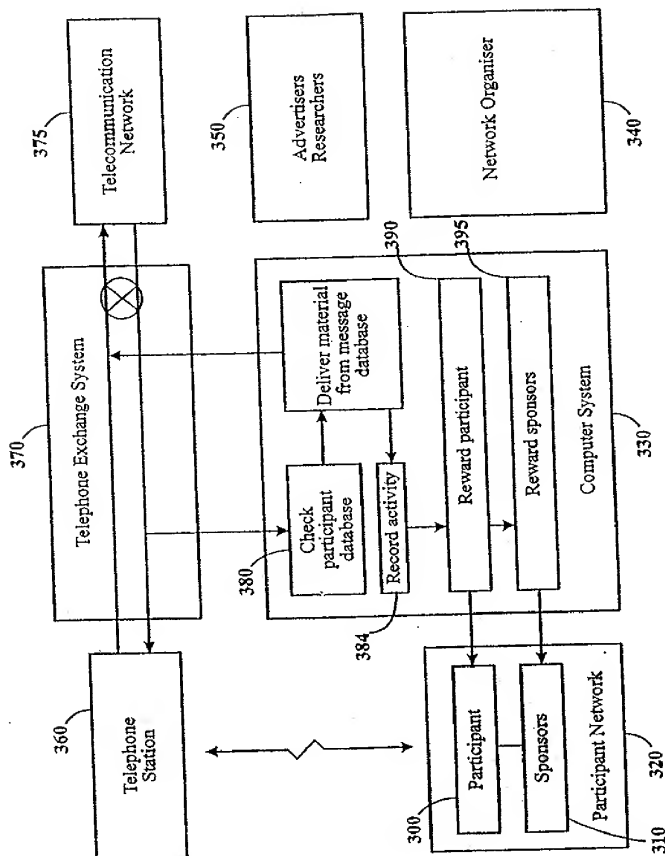


Figure 3

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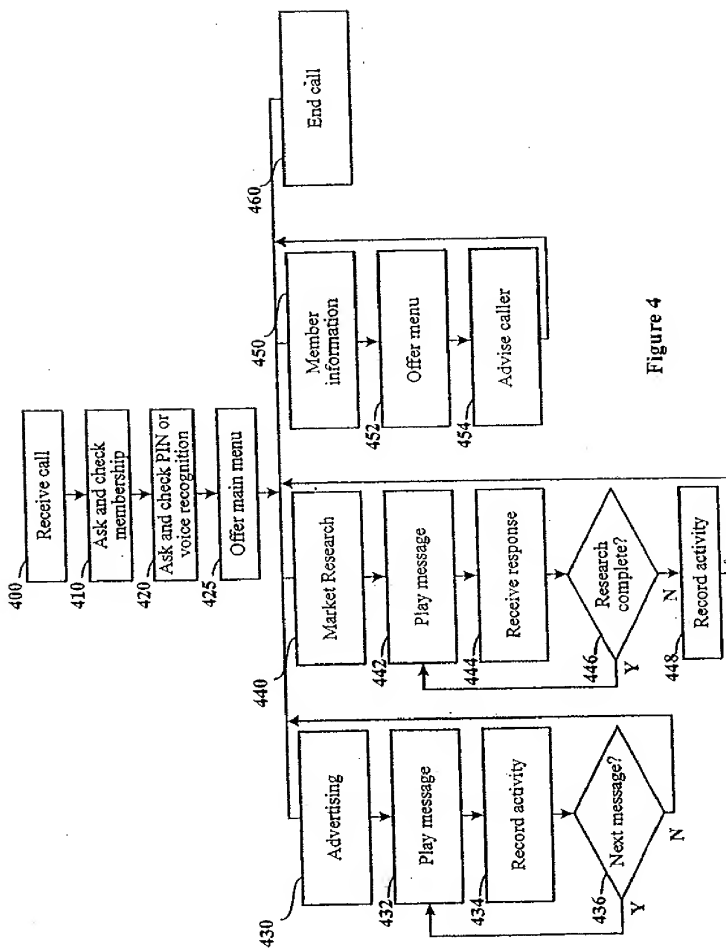


Figure 4

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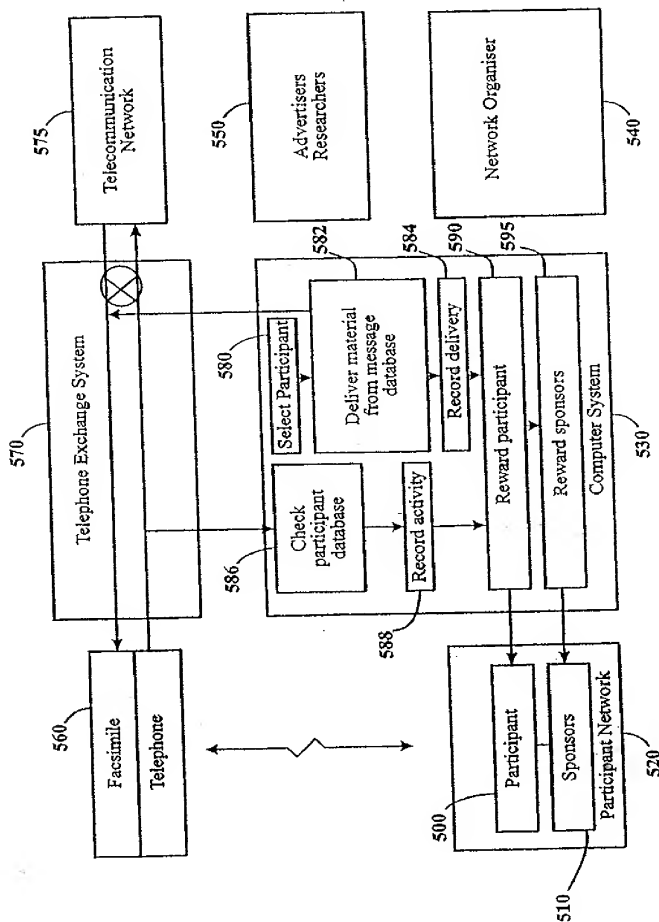


Figure 5

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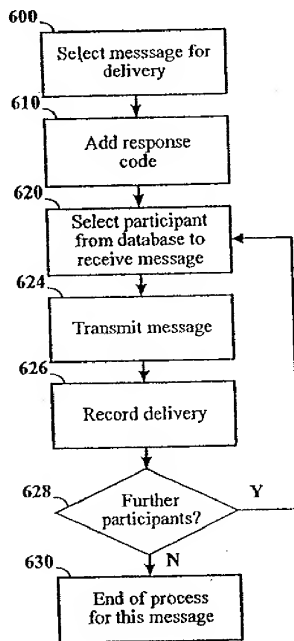


Figure 6a

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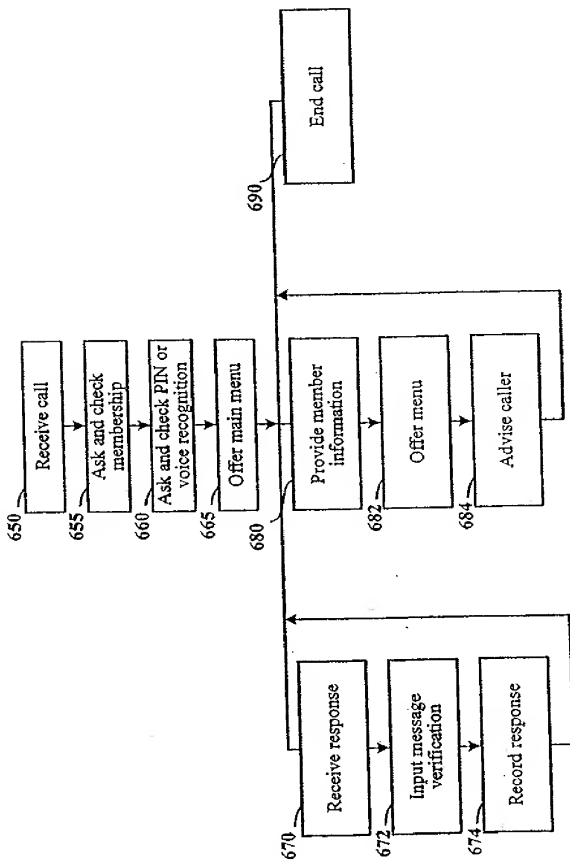


Figure 6b

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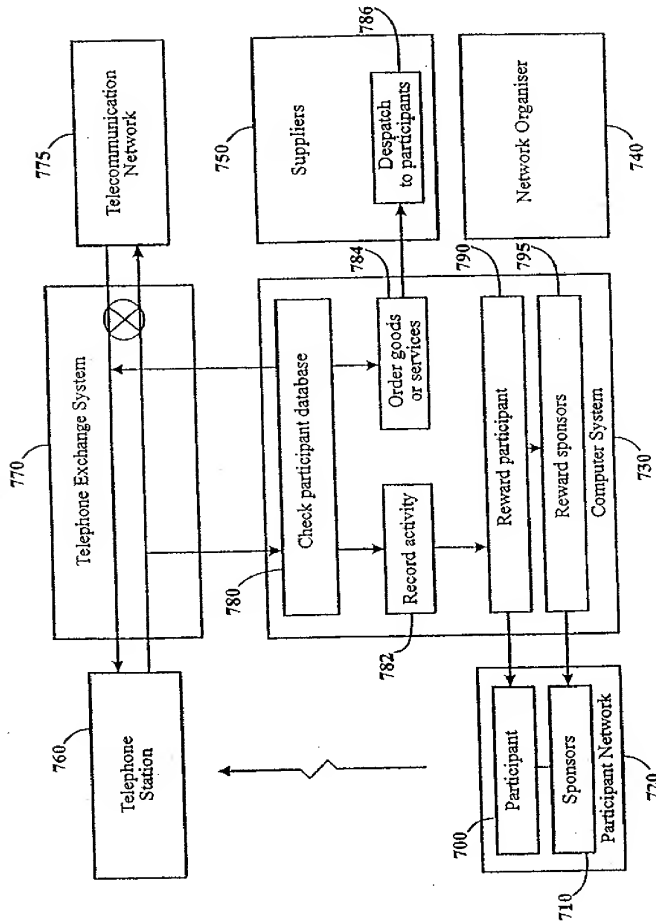


Figure 7

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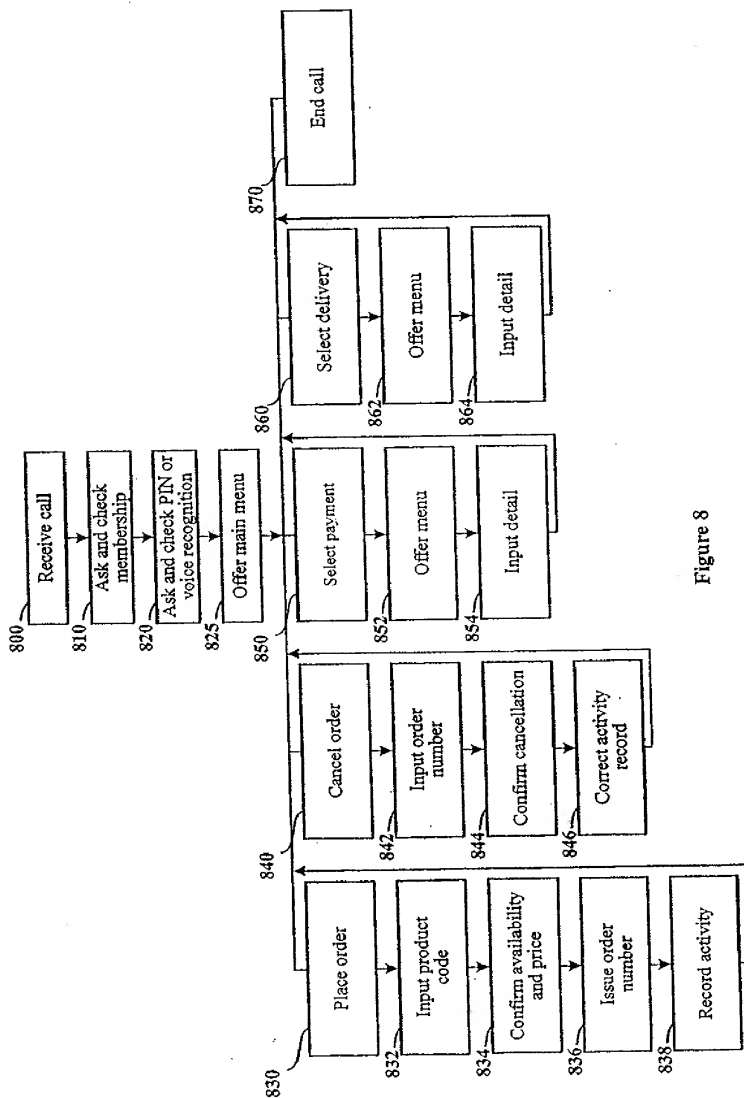


Figure 8



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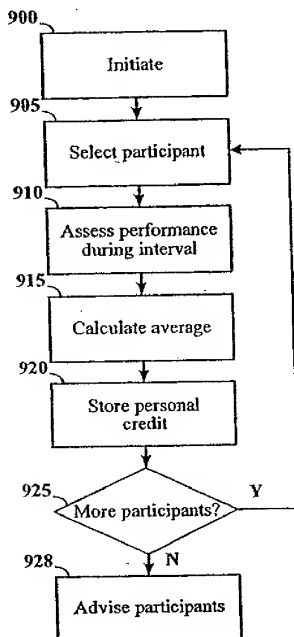


Figure 9a

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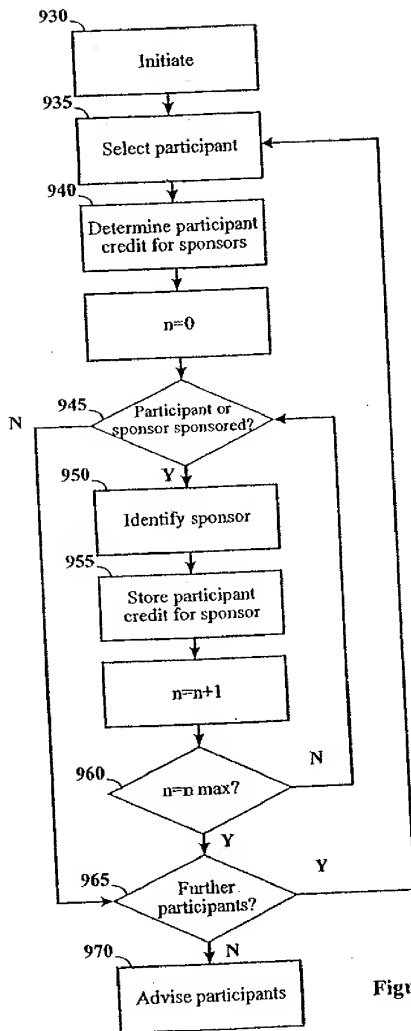


Figure 9b

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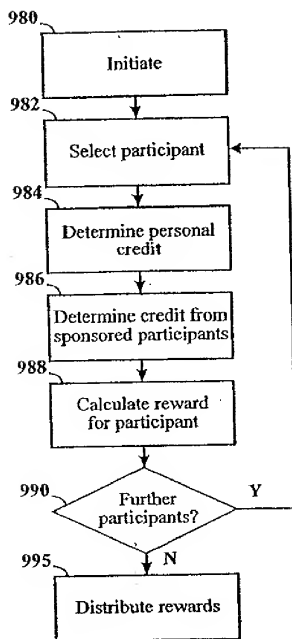


Figure 9c

# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/NZ 96/00046

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 G06F17/60

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO,A,94 04979 (START) 3 March 1994 see page 1, line 18 - line 22 see page 4, line 30 - page 6, line 9 ---	1,2
A	GB,A,2 206 265 (AT&T) 29 December 1988 see abstract	8,9
A	& US,A,4 850 007 (MARINO ET AL) 18 July 1989 cited in the application ---	
A	EP,A,0 308 224 (MERIDIAN ENTERPRISES INC) 22 March 1989 see claims -----	12

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \* "A" document defining the general state of the art which is not considered to be of particular relevance
- \* "E" earlier document but published on or after the international filing date
- \* "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \* "O" document referring to an oral disclosure, use, exhibition or other means
- \* "P" document published prior to the international filing date but later than the priority date claimed

\* "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\* "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\* "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\* "A" document member of the same patent family

Date of the actual completion of the international search

30 August 1996

Date of mailing of the international search report

02.10.96

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tlx. 31 651 epo nl,  
Fax (+31-70) 340-3016

Authorized officer

Pottiez, M

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/NZ96/00046

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☒ Claims Nos.: 2-14  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
Method for doing business (Rule 39.1(iii)).  
Advertising and market research method wherein participating recipients form a network and become sponsors for other participants who join the network.
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No  
PCT/NZ 96/00046

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO-A-9404979	03-03-94	AU-B- 4806193	15-03-94
GB-A-2206265	29-12-88	US-A- 4850007	18-07-89
		AU-B- 607233	28-02-91
		AU-B- 1838588	05-01-89
		CA-A- 1286759	23-07-91
		JP-A- 1017553	20-01-89
		JP-C- 1764247	28-05-93
		JP-B- 4058221	16-09-92
EP-A-0308224	22-03-89	US-A- 5025372	18-06-91